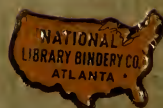


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SOUTHERN MEDICAL AND SURGICAL JOURNAL.

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MEDICAL COLLEGE OF GEORGIA.

"Je prends le bien où je la trouve."

VOL. XV.—1859.—NEW SERIES.

AUGUSTA, GA:

J. MORRIS, PRINTER AND PUBLISHER.

1859.

SOUTHERN MEDICAL AND SURGICAL JOURNAL.

(NEW SERIES.)

Vol. XV.]

AUGUSTA, GEORGIA, JANUARY, 1859.

[No. 1.

ORIGINAL AND ECLECTIC.

ARTICLE I.

A Case of Hydrophobia from the Bite of a Pole-Cat—Tracheotomy.
By R. DE JERNETT, M. D., of Greeneville, Texas.

[THE following well written report presents, in a graphic manner, the details of one of those touching and painful cases, which too often present themselves as gloomy episodes in the physician's life. The experiment with the operation of Tracheotomy, and the Doctor's inquiries in relation to the nature of the animal poison producing hydrophobia, are subjects of deep interest to the profession, and render the case one of much importance, as a record of that mysterious and terrific affection :]

Called February 24th to see Amanda S——, age ten years. About the 8th of January she was bitten by a Pole-cat, in the night, while sleeping. Her father hearing her cry, went to her relief, and had to choke the cat before he could disengage its hold. He remarked, it was sucking the blood from the wound, which was inflicted on right side of her mouth, in the lip. It was thrown out and killed by a dog, which was also bitten, but did not manifest any symptoms of the disease up to the 24th February, when he was killed, fearing the disease might yet be developed.

The bite on A. S—— swelled the face, and was painful for four days; then healed as a bite of any kind would, and her health was good until Sunday, Feb. 21st, when her parents observed she was stupid and inclined to sleep. The patient spoke of an itching sensation in the cicatrix.

22nd. Patient slept most of the day, and when not sleeping, rather petulant; still complains of itching in the cicatrix; appetite very good.

23rd. Symptoms, so far as could be learned, were very much as yesterday, with this exception—has no appetite to eat.

24th. Patient arose from bed before day, and said she felt better than she had for three days; but in the course of an hour complained of spasms about the fauces, in attempting to swallow fluids; yet she could swallow solids with impunity. The family became alarmed, and Dr. Patterson was called in. The Doctor told me, when he was getting the history of the case, that, he had some fears it was a case of hydrophobia; but not being satisfied, and as the case presented some symptoms of worms, he gave a dose of calomel, and left.

The case grew worse very fast, and Dr. P. was sent for again at 3 o'clock P. M. He found her very restless, with jactitation of limbs and occasional slight spasms; he requested the parents to send for me.

When I saw her, 10 o'clock P. M., she was in bed, and very restless. Her father brought her to the fire, and seated her in a large rocking-chair, and she assumed an erect position, with her head rather thrown back, her face flushed; in the countenance was depicted a fearful expression of anxiety. She addressed me in a sobbing tone of voice: said—"I am bitten by a Pole-cat—can you cure me?"—then seemed to smile with a forced effort, her face being very much contorted. 'I was informed by Dr. P. that her pulse had been low and irregular during the evening, the extremities had been cold and moist. Dr. P. had given ammonia, quinine, and some of the antispasmodics, with no other effect than that of raising the pulse. I asked her if she had any pain? She replied yes—in the forehead, the back of neck, and at times under the sternum. We gave opium, with a hope of tranquilizing the system and procuring sleep, but in vain. She said there was a mat of long hair in her right eye.

I could not see anything, though it was red, and running water—the left was also discharging tears, but not so much as the right; the pupils of both, very much dilated.

11 o'clock P. M. Pulse irregular, but frequent; extremities cold and moist; stomach irritable, constantly spitting a tenacious mucous, and complained of something rising in her throat about the size of her little finger, and on trying to get it out, it would slip down. By pressing forward the tongue with a spoon, I could see a tenaceous and frothy substance rise up, in a conical shape, to the posterior nares, which interfered with the free action of the epiglottis; she would become restless, and throw herself back suddenly, as if badly frightened. Her mouth was widely opened during the inspection. When bidden, she would do anything that promised relief. The panic either proceeded from the difficulty in respiration, caused by this substance rising in the throat, or from the slipping of the spoon on the tongue, in her efforts to breathe; the latter is probable, because by titillating the skin on any part of the body, or passing a current of air on the skin, produced these shuddering tremors.

I had a cup of water brought, and requested her to take some. She said—"I want it, and will try to drink." Violent agitation of the whole body supervened; finally, rallying sufficient power, she clutched it with both hands, and with a quick movement put it to her mouth. It did not more than touch the mouth, when it was thrown off with violence, and the body convulsed. She was also tried with milk, and with the same result. Her eyes were always directed to one side of the fluid till the moment of seizing it. 12 o'clock.—Took about 6 ounces of blood from the arm, and gave 2 grains opium; sinapisms to the extremities; but could not be retained, owing to restlessness. 1 o'clock A. M.—Gave, by inhalation, two drachms chloroform, which only exasperated the symptoms. Her symptoms all grew worse, vomiting came on, and at times delirium, when she would spring from imaginary evils and halloo at the top of her voice, and occasionally bite the bed-clothes.

Standing by, only to witness the futility of the means employed—while the disease was clinging on with unrelenting tenacity—we resolved to act upon the suggestion of Dr. Reynolds, of Bellevue Hospital, to open the trachea, and introduce

a tube. I proceeded to do so, and she breathed somewhat easier. In this, our dernier resort, we did not entertain a sanguine hope of success, for we were expecting death to occur every minute; but asphyxia seemed to be the threatening evil. If this had been done twelve hours sooner, I believe it would have saved the patient; but death occurred suddenly, in a hard convulsion, at 4 o'clock A.M., half hour after the trachea was opened, and sixteen hours from the time the disease was fully developed. The cicatrix, after death, was of a livid hue. No post-mortem examination.

Most writers believe this disease results from the entrance into the blood of the poison of a rabbid animal. To this opinion, I cannot be reconciled; for this, with five other cases, within the last six years, have been bitten by these cats, and only two escaped the disease; and in one of them an extensive ulceration was set up in and about the wound. Only one dog has been known to have the disease during these six years. These cats are numerous in this country, and our dogs kill them frequently, and are bitten by the cats, yet the dogs do not have the disease.

I would like that some writer, able to do this subject justice, would give his views on the above facts.

ARTICLE II.

Apocynum Cannabinum, as an Antiperiodic in the Treatment of Intermittents. By PETERFIELD TRENT, M. D., of Richmond, Virginia.

SOMETIME during the fall of 1856, while conversing with my friend, Dr. R. S. Cauthorn, of this city, I mentioned how disappointed I had recently been in the treatment of intermittents with quinia. Dr. C. called my attention to the value of the *Apocynum Cannabinum* of the U. S. Dispensatory in the treatment of Intermittents, and related to me his experience of its use. In the May number of the *American Journal of Medical Sciences*, for 1833, Dr. Griscom, of New York, has an interesting and able paper upon the history of this plant, together with its chemical and medical properties. Dr. Knapp has also given

his experience of its medicinal virtues in the treatment of Pneumonic affections, and Dysentery. Dr. Mott has also used it successfully in Dropsy; and by Dr. Rush it has been styled the *vegetable trocar*. In the present instance, I only design to notice its effects in the treatment of Intermittents, as have occurred in my own practice.

CASE I. Abram, a slave. I received a message from my overseer, that my servant Abram had been laid up for some time with chills, having one every day. He had been for sometime liable to periodical returns of fever and ague. I sent 120 grains of quinine, and directed it to be made into twelve pills—one to be given ever two hours, until three pills were taken each day before the chill was expected. About a week after, I received a note, stating that Abram still continued to have a chill each day, and the overseer feared, unless they were speedily checked, his health would entirely give way. Dr. Cauthorn having very kindly given me a specimen of the plant, I powdered a portion of the root, and after sifting it, I made up about two dozen pills of 5 grains each. I ordered 12 grains calomel and 12 grains jalap, to be given the patient at bedtime—next morning to give one of the pills of the *Apocynum Cannabinum* every two hours, until four pills had been taken. After taking some ten or twelve of the pills his chills entirely ceased, and he has never had one since, to my knowledge.

CASE II. Mrs. A. Upon visiting my patient, I found the chill had just gone off, and the fever rising. Her tongue was furred, and she complained of pain in her head and back. Upon enquiry, I found this was her second chill, having had one the day previous. I ordered two comp. cath. pills (Tilden's), to be taken at bedtime—at 8 o'clock the next morning to take one of the following pills every two hours until four had been taken:—R. *Apocynum Cannabinum*, 3j.

Olei Mg. Pip. gttæ. xvj.

Syrup, q. s. M. ft. pil. No. xij.

Second visit to Mrs. A. Found my patient had had that day a slight return of her chill; the medicine had produced profuse perspiration; her tongue was cleaner; her bowels had been

freely opened; the last pills taken had produced some nausea. I ordered the pills to be continued as previously ordered.

Third visit. Found Mrs. A. sitting up. No return of her chill. Ordered her to take one of the remaining pills morning and night, until she had taken the whole twelve. Her chills have never returned.

CASE III. Called to see Mrs. C., an old patient of mine, whom I had treated with quinine, for chills, the two previous falls. Upon enquiry, learned that Mrs. C. had, previous to sending for me, resorted to my former quinine prescription, but failed in stopping the chills. She had considerable fever, and complained of her limbs aching; her tongue was but slightly furred. I directed two comp. cath. pills at bedtime. To commence immediately after breakfast, and take one of the following pills, every two hours, until four pills were taken previous to the expected chill that day.

R. Apocynum Cannabinum, 3j.

Olei Mg. Pip. gttæ. xij. M. ft. pil. No. xij.

Second visit. Found Mrs. C. had just had a chill, as severe as her former one. The medicine had operated freely, and had produced profuse perspiration, but no nausea. Ordered the pills to be continued the next day, as directed the morning of the day I saw her.

Third visit. Found Mrs. C. in bed—thought she had had a slight return of her chills—otherwise she felt better. I ordered the pills to be continued, as previously directed.

Being called unexpectedly from town, I did not see Mrs. C. for some month or two. When I did see her, learned her chills had ceased after taking the twelve pills, and that they had not returned.

CASE IV. I was called to see Miss V. Found her in bed, with a severe headache, furred tongue and considerable fever. Upon enquiry, was told by her mother that the chill she had just had was the fourth one that week. I found Miss V. had resided in a district liable to chills, and that she never escaped an attack of Intermittent fever at least once a year. I ordered the comp. cath. pills, and pills of 5 grains each of Apocynum

Cannabinum, as directed in the cases previously reported, and to be taken in the manner there directed.

Second visit. Found Miss V. had not escaped having a chill. She, however, was free from headache, and freer from fever than she was the previous day. The last pills taken had produced considerable nausea, and had produced large watery evacuations. She had perspired freely. Ordered the pills to be continued.

Third visit. No return of chill—all the other symptoms abated. Patient thought she felt chilly for a little while that morning, but did not think she had a chill. Ordered the pills to be continued.

Fourth visit. No return of chill, nor chilliness. Learned from her mother, some two weeks since, the chills had not returned.

CASE V. Called to see Miss B. Learned from her mother that she was liable to attacks of chills and fever every fall. She had noticed for the past week, her daughter would sometimes, during the day, while she would be cooking, come close to the fire, and that she could hear her teeth chatter—her lips would turn purple; and that headache and fever always followed this chilliness. I directed the comp. cath. pills and the Apocynum Cannabinum, to be taken as directed in the cases heretofore reported.

Second visit. Found Miss B. sitting up—the chilliness had not returned; no unpleasant effect had been produced by the Apocynum Cannabinum.

Third visit. Still no return of chilliness. Ordered the remaining four pills to be given, one each night and morning, until all were taken.

CASE VI. Called to see Mrs. I. (enciente). Upon enquiry, was told she had a chill about 6 o'clock every morning, and that headache and fever followed. I directed two comp. cath. pills (Tilden's), to be taken at once, and one pill of the Apocynum Cannabinum, to be given at 8 and 10 o'clock that night. Commence at 6 o'clock next morning, and give one pill every two hours, until two pills had been taken.

Second visit. Some chilliness had been felt that morning about the usual time that her previous chills had occurred. No unpleasant effects had been produced by the last pills ordered. Directed Apocynum Cannabinum pills to be continued as directed at my first visit.

Third visit. No return of chills, nor chilliness. Ordered the remaining four pills to be taken, one night and morning, until all were taken.

The six cases I have reported were patients whom I visited, with the exception of case 1st, which I did not visit. Cases 7, 8, 9 and 10, prescribed for, but not reported, were cases of patients who visited my office, and complained of having fever and ague. These cases I treated precisely like those I have reported. I have been only able to hear from two or three—they were reported as entirely cured.

In my practice among the indigent, I am really happy to find so ready a helper, as I have found the Apocynum Cannabinum in the treatment of *Intermittents*. Its cheapness, in comparison to the Quinia, is *not to be lightly overlooked*. I would not have my professional brethren suppose, that I class the Apocynum Cannabinum among the *cure-alls*, or that I would discard the other valuable antiperiodics of our *Materia Medica*, to use this medicine alone. I, however, must say that my limited experience does justify me in saying that, as an antiperiodic, it deserves a higher place in our *Materia Medica* than has been heretofore assigned to it by the Profession.

ARTICLE III.

English Medical Education. By R. H. NISBET, M. D., of Macon, Georgia.

THE last Westminster Review contains an able article upon the subject of English Medical Education. The writer reviews the history of the Royal College of Surgeons, the Royal College of Physicians, and the Apothecaries Company of London, from their earliest organization to the present time. He retraces the steps they have taken to reach that pre-eminence in position,

which they now occupy in the medical world. What are the facts of the case? These chartered companies are in a condition to dictate terms to the profession, and through the profession to the people. They are fostered by State aid, and their rights secured by Royal sanction. The result proves that they have instituted a prominent order of monopoly. They have built up a system which is grossly selfish, exclusive, and unjust to the commonality. Their scheme of medical ethics is shrewdly planned, and its requirements are rigidly exacted. In a word, the system is "*English*" throughout. In a republican sense, its story is similar to the one of Church and State, and suggestive of that deep-seated policy so characteristic of parliamentary power. It is injurious to the profession, because subversive of all efforts to compete with it outside of its sacred enclosure. It ignores the professional standing of all licentiates who have not been graduated by the fixed rules of its own standard. Outsiders are "non-conformists," unorthodox, aliens from the "grand system," and as such they are persecuted. It will not permit its own licentiates to aspire to a fellowship. The College of Surgeons, whose membership embraces the larger portion of the medical body, has decreed that none but graduates of Oxford and Cambridge, shall be admitted as candidates for Fellowship. Even distinguished foreigners must apply with an "*adeundem*" degree from these colleges. Now, when it is known that both Oxford and Cambridge require their alumni to subscribe to the "thirty-nine articles," it becomes equivolent to enforcing even a religious test upon candidates for fellowship, in an institution which is purely scientific. Such men as Sydenham, Hunter, Copland, Fothergill, Wells, Locock, and a host of others, have been excluded. Men who are the very pillars of the temple, must needs stand outside the holy enclosure, when supporting the whole superstructure, while the Dukes of Richmond, and Montague, mere "dabblers in the science," become its privileged priests. The College of Physicians black-balled Dr. Locock because, forsooth, he was an accoucheur. He could enter the bed-chamber of the Dutchess of Richmond, to deliver her from the "perils of child-birth," but by doing so, he "degraded" himself, and, hence, could *not* enter into scientific fellowship with the noble Duke.

It is an easy matter to show the selfish, costly, monopolizing result of a system controlled by those chartered colleges. In brief it is as follows:

The profession in England is divided into the distinct departments of Surgeons, Physicians and Apothecaries. Each College grants its own diploma, which restricts the licentiate to its own limited sphere of action. In order to become a "general practitioner of medicine," it is incumbent upon the student to pay for a diploma from two of these Colleges. The average cost of a license, so obtained, is, in round numbers, \$3500. It compels the student to set aside five years—the most important ones of his literary life—to the exclusive purpose of acquiring a medical education: two of these are thrown away upon the miserably conducted system of apprenticeship: the remaining three are occupied in attending lectures, and hospital service. Three winter courses, of six months each, and two summer sessions, of three months each. In all, twenty-four months of unremitting study. At the end of five years he becomes a candidate for graduation, and must present himself duly certified to, and systematically indoctrinated. A certificate of apprenticeship, paid for!—a certificate of hospital service, paid for!—a certificate of attendance upon lectures, paid for!—which all amounts to an *English tax* upon time, money, health, and—the *privilege of a royal sanction to professional standing*. A diploma so purchased, is not, of necessity, a criterion of merit. The examination is a farce. The leading questions to the candidate are—"Have you been duly certified to"?—"Have you paid the requisite fees"? An answer in the affirmative (together with the proof) calls for a diploma—paid for! The operation of this chartered system is such as to compel English students to be graduated in the city of London. The city hospitals are under the controul of the colleges. The medical schools are but appurtenances to the hospitals, and hence the whole system belongs to a superannuated set of "Royal Fellows."

Such has been the state of things up to the present time. But it seems that a reformation is about to ensue. The constituent membership of these corporate colleges is composed of fifteen thousand "duly qualified physicians, surgeons, and general practitioners." This body does not include the army, and navy

medical staff of the regular service, nor the large body in the employ of the East India Company. In all, it is a noble army of physicians in league against that universal enemy—Disease. It has been fighting a brave battle at home, in the Crimea, in the East Indies, and the Colonies. But while battling against disease, it has maintained the fight against the “powers that be.” It has waged incessant war against the system under which it has been trained for the fight. It has contended for reform in the present plan of English medical education. Parliament, the people, and the profession, have all been petitioned for a substitute, in lieu of the present system. The object is to consolidate the existing colleges into one Medical Council, whose business it shall be to regulate the standard of Education for the United Kingdom. The advantages gained will be a minimum price, as the cost of professional education—less time in acquiring it—in a word, a more perfect system.

It will be needless to add, that the scheme is but little better than the old system. It is the first step toward reformation—the last of which will not be taken until any plan proposed shall require no aid from the State. Our professional cousins must inaugurate the same republican principles which govern medical education in America, before they can satisfy the wants of the people, and please the great body of their physicians. We are pleased to see that there are Doctors who are doing for the profession what D’Isreali is doing for the people. The progress of republicanism is slow, but sure; still we are glad to see that our noble science is becoming the “head and front of the offending.” We trust that the time is not far distant when it shall be wholly released from the shackles of arbitrary enactment.

On the Treatment of Dysentery by the Administration of Large Doses of Ipecacuanha. By E. S. DOCKER, Esq., Surgeon of the 2d Battalion of the 7th Royal-Fusiliers.

IN no part of the world, probably, does dysentery prevail more extensively, or with greater severity, than in the island of Mauritius, and nowhere is it more fatal. As surgeon of the 5th Fusiliers, I was stationed there nearly six years, and had therefore ample opportunity of becoming acquainted with this hitherto intractable and fatal disease. I say "hitherto," as it is my firm belief that, henceforward, dysentery may be as much under control and as expeditiously cured as simple diarrhoea.

For the greater part of the above period—viz., from 1851 to 1857—I have availed myself of the remedies in general use. At last, disheartened with my ill success in several bad cases, wherein I had perseveringly but ineffectually employed the *secundum artem* treatment, and remembering to have somewhere seen it mentioned that the powdered root of ipecacuanha, in large doses, had been given with great effect in the complaint, I became anxious to make trial of an agent declared to be of such extraordinary efficacy.

I have tested this medicine in cases of every kind and degree. Out of upwards of fifty cases of dysentery I lost but one (in former years the mortality ranged from ten to eighteen per cent.); and in the instance in question death was caused by abscess in the liver: the primary disease had been not only cured, but very thoroughly cured, as I shall hereafter show. I must observe that I had at one time been in the habit of prescribing ipecacuan in the the small doses recommended by Mr. Twining; but so ineffective was it when thus administered—excepting in cases of no great severity, wherein other medicines answered as well, *without* the inconvenience of nauseating,—that I had long ceased to employ it. On resuming the use of ipecacuan, I gave it in doses ranging from ten to ninety grains; rarely less than twenty grains. The largest quantity was given in urgent cases only, the ordinary dose being a scruple or half a drachm. The action of these large doses is certain, speedy and complete; and truly surprising are sometimes their effects. In no single instance has failure attended this medicine, thus employed. I am not, of course, sufficiently sanguine to expect that it will invariably succeed; but of this I am convinced, that it will effect a complete cure in an immense majority of instances.

In all constitutions, robust as well as delicate, under all circumstances, the result is the same. In the very worst cases, when the strength of the patient is almost exhausted, after the whole range of remedies has been tried in vain, the disease run-

ning its course swiftly and surely to a fatal issue, ninety grains of ipecacuan have been given, and forthwith the character of the disease, or, I should rather say, the character of the *symptoms* has been entirely changed; for the disease itself is literally cured, put a summary stop to, driven out. The evacuations, from being of the worst kind seen in dysentery, have, not gradually, not by any degrees, however rapid, changed for the better; they have ceased at once, completely. There has been no inclination even to stool for twenty-four or thirty-six hours, the patient all the time in a state of delightful ease and freedom from pain; then at last, without aid of any kind, a perfectly natural, healthy evacuation, all irritation, pain, and tenesmus having at the same time entirely ceased.

Nor is there the disposition to relapse so common in acute dysentery. I have not observed what may be termed a true relapse in any instance. If the patient contracts dysentery again, he does so *de novo*. All that remains—the medicine having cut short the disease—is for the patient to recover strength; and this quickly follows, without any extraordinary care as regards diet and regimen, so indispensable and requiring such nicety of management in convalescence from dysentery generally. The usual necessity, moreover, for after treatment, in the shape of a long course of astringents, &c., is in most cases entirely obviated, a few doses of some vegetable tonic being all that is needed.

It may be asked by what means the stomach is enabled to retain such large doses of an emetic substance. The course I have generally adopted is as follows:—In the first place, a sinapism is applied over the region of the stomach, and simultaneously a draught given containing a drachm of laudanum. Half an hour after, when the sensibility of the stomach has been, by the action of the opium and counter-irritant, as much as possible diminished, and the patient's attention is occupied with the sinapism or by conversation, the ipecacuan is administered—generally in a draught, sometimes in the form of pill or bolus—and the semi-recumbent posture steadily maintained. In a considerable proportion of cases, the medicine is not rejected, or it is at least retained long enough to enable it to do its work. If necessary, I repeat it till the stomach does retain it. I never yet have been obliged to give it in the form of enema. Where so considerable a dose as sixty or ninety grains has been administered, I in general wait ten or twelve hours before giving another. Should the bowels, however, not meanwhile have acted, a repetition is not generally required. I ought here to mention that I begin the treatment of dysentery, in most cases, with an emetic—always with a thorough clearance of the bowels.

To those acquainted with tropical dysentery, the facts I have stated relative to the action of large doses of ipecacuan may appear almost incredible; the following cases, however, all of which were under my own immediate care, will, I trust, prove that I have not exaggerated:

Private J. H——, aged twenty-six, admitted April 1, 1855. This man's symptoms were decidedly dysenteric (I do not transcribe the case verbatim, as it would occupy too much space); "stools scanty, containing blood and mucus, accompanied with severe tenesmus, and tenderness on pressure over the descending colon." An emetic and purge were given at the outset, then turpentine in ten-minim doses, with a grain of opium every four hours. This answered very well at first, for on April 2nd, the report was "stools entirely feculent, semi-fluid, homogeneous, and of dark colour." And the motions *continued* feculent, though action of the bowels was frequent.

On the morning of the 7th (small doses of turpentine, with laudanum and astringents, had been continued up to that time), the report was "seven or eight natural semi-consistent stools during the last twenty-four hours." Ordered, powdered columbo, one scruple three times a day. This, however, proved to have been premature, for on the evening of the same day, an unfavorable change had taken place. "Bowels moved five times since morning; small quantities of feculent matter, with much blood and mucus." Ordered, sinapism to the epigastrium, and three grains of opium; half an hour after, ninety grains of ipecacuan in the form of draught. On the following morning the report was, "Bowels moved three times, very copiously, during the night; stools watery and feculent, and containing *no trace of dysenteric matters*. He retained the ipecacuan four hours, then vomited. Is quite free from pain." There was no occasion to repeat the ipecacuan, for not a drop of blood nor mucus was afterwards seen, and he was discharged, completely cured, on the tenth day from admission.

Private A. C——, aged nineteen, an exceedingly delicate, weakly lad, admitted on the 26th of December, 1855, "with frequent purging of scanty stools, consisting of a little feculent matter, mingled with sanious mucus; tenesmus severe. Ill two days prior to admission." In this case, ipecacuan was employed at the outset; scruple doses with twenty drops of laudanum in a draught every four hours. Sinapism to the entire abdomen.

27th.—Action of bowels very frequent since admission—upwards of twenty times; stools of natural appearance, but copious and watery; tenesmus less severe. (It ought to be mentioned that, arriving from England with a batch of recruits in the month of September previously, he had since landed in the

island, scarcely ever been free from diarrhœa). Draughts and sinapisms repeated.

28th.—Bowels moved eight times yesterday—evacuations less watery, and five times in the night, when the stools were semi-consistent; no blood nor mucus. Ordered compound soap pill, five grains every six hours.

29th.—One very scanty, semi-fluid stool only since last report. Infusion of gentian three times a day.

30th.—No motion since yesterday. Gentian continued.

On the 31st, the bowels being still confined, they were gently moved with castor oil.

The patient was discharged quite well on the 6th of January. Eight days after, it was necessary to re-admit him on account of diarrhœa. Ordered, mercury with chalk, quinine, and Dover's powder every four hours. Next day he was better. On the 16th, however, there was a trace of blood in the stools. Ten grains of ipecacuan were added to each powder (every four hours).

Jan. 17th.—The blood had disappeared; stools were semi-consistent. He went on very well, gradually gaining strength, till the 24th, when diarrhœa returned.

25th.—Stools now contain blood and mucus, and are attended with straining. Ipecacuanha renewed in ten-grain doses, every four hours.

26th.—Bowels not moved once since yesterday; three times during the night; stools semi-consistent, feculent, and intimately mingled with tenacious mucus. Ipecacuan draughts continued.

27th.—Stools of much better appearance.

On the 28th they were "perfectly natural," and so continued, with occasional relaxation, but free from the least trace of dysenteric matters for eleven days; then, on the evening of the 8th of February, the report was, "Bowels moved twenty times since morning; evacuations scanty, and consisting wholly of sanious mucus." Ordered, sinapism over the stomach, and draught containing twenty minims of laudanum; half an hour afterwards, sixty grains of ipecacuan.

Feb. 9th.—Up very little during the night, passing, although, not quite half a teacupful of sanious mucus; tenesmus, but no pain in the abdomen. Ordered castor oil, twenty minims; mucilage, one ounce; ipecacuan powder, one scruple; tincture of opium, ten minims; peppermint water, one ounce, every four hours.

On the 10th the only change observable was, that very little blood was passed. Ipecacuan powder, ten grains; tincture of opium, twenty minims; camphor mixture, one ounce; liquor acetate of ammonia, half an ounce, to be taken every four hours.

Under this treatment he daily improved, and on the 13th the stools were "few and perfectly natural."

After a second complete intermission of fourteen days, during which he was only kept in hospital for the recovery of his strength, he *again* had a return of dysenteric symptoms, "seventeen or eighteen stools, feculent at first, but latterly tinged with blood; tenesmus, with tenderness on pressure over the abdomen generally." Once more recourse was had to the ipecacuan draughts, as on the 10th, which had answered so well.—Evening: A few drops only of sanious mucus passed since morning. Ordered, castor oil, two drachms.

28th.—Purged seventeen or eighteen times during the night, and has passed a quantity of healthy feculent matter. Draughts repeated; also on the 29th of March.

April 1st.—The report was "stools perfectly natural," and his bowels continued composed till the 7th, when the stools again contained a little mucus and blood. Ordered the following draught every six hours:—Oil of turpentine, ten minims; mucilage, half an ounce; tincture of opium, twenty minims; powdered ipecacuanha ten grains; peppermint water, one ounce.

On the 8th and 9th (the draughts being continued) the action of the bowels was frequent.

10th.—No change having been made in the treatment, the motions were "natural and *formed*."

After this he had no return whatever of dysenteric symptoms, but was so excessively weak that I could not safely discharge him before the 29th of April. He has since continued well, and perfectly free from his besetting ailment—diarrhœa.

The above case is a very good exemplar of the powers of ipecacuan in dysentery. Without so powerfully controlling an agent, I look upon it as morally certain that this boy would have died; for never, in the whole course of my service, had I to deal with a case in which the disposition to morbid action in the bowels was so marked. It will be observed that though there were returns of dysenteric symptoms, *yet during the intervals their cessation was complete*. I think that chills or checked perspiration—conditions it is impossible entirely to guard against in the Mauritius, especially at night and in the early morning—were the cause of the repeated attacks in this case.

Private S. M.—, aged twenty-five; admitted with dysentery on the 11th of February, 1856. The symptoms were at first slight, and the treatment simple (chiefly purgatives and Dover's powder), and he went on very well till the 17th, when the report was "four stools since yesterday, scanty, and consisting entirely of blood and mucus." Ordered powdered ipecacuanha, one scruple; Dover's powder, half a scruple: to be taken every four hours.

Feb. 18th.—“Four stools since last report, feculent and formed, with a trace only of sanious mucus; patient quite free from pain and tenesmus.” Powders continued, with the addition of one grain of opium to each.

19th.—“Stools entirely feculent and consistent.” He was discharged fit for duty on the 1st of March, having had not the slightest return of dysenteric symptoms after the 19th of February.

Private W. B——, aged thirty-six; a very weakly phthisical subject, with a marked disposition to atonic diarrhœa. Admitted with dysenteric symptoms on the 18th of March, 1856. “Purging frequent, with severe tenesmus; stools watery, and contain both blood and mucus.” He was ordered an emetic immediately, followed by an ounce of castor oil, and a grain of opium. Evening: “Purged nine times since admission; evacuations copious and watery, with a large admixture of fluid blood.” Ordered forthwith the sinapism and drachm of laudanum, and half an hour after, sixty grains of powdered ipecacuan in form of pill.

19th.—“Feels much better; bowels moved seven times during the night; stools liquid, feculent, and containing very little blood and mucus; tenesmus considerably diminished.” The ipecacuanha was retained.” Ordered a draught, every four hours, composed as follows:—Oil of turpentine, twenty minims; mucilage half an ounce; peppermint water, one ounce; powdered ipecacuan, one scruple; tincture of opium, twenty minims.

20th.—“Four stools yesterday of better appearance, two during the night; a few drops of pus-like (the most harmless) mucus only perceptible; feels much better; tenesmus entirely gone. Draughts of ipecacuan and turpentine continued, with the addition of twenty drops of castor oil to each.

21st.—“No motion yesterday; three during the night, natural and semi-consistent.” Draughts discontinued.

22nd.—“Two perfectly natural stools since last report.” Ordered a scruple of powder of colombo, three times a day.

23rd.—“Improvement maintained;” and he was discharged quite well on the 28th.

There could not well be a more satisfactory case than the above. A debilitated, delicate subject, attacked with dysentery—and while the attack lasted it was *severe*—is cured in ten days, and so *radically* cured as to have had no return whatever of bowel complaint, though previously much disposed thereto.

I now come to one of the worst cases that occurred in the 5th Fusiliers during the time I was in medical charge. This case exhibits the specific action of large doses in dysentery in a striking manner. At that time I was not so fully conversant with this medicine, and as the man was extremely ill at the time of

admission, I deemed it advisable at first to employ calomel; and this medicine, which by many is looked upon as a specific in dysentery, had a fair trial—so fair, indeed, as to place the life of the patient in considerable jeopardy. At this juncture it will be observed by those practically conversant with dysentery, that the man's symptoms were indicative of extremest danger. Fortunately, recourse was had to ipecacuan; and this medicine was given in full (drachm-and-a-half) doses three times. But I must not anticipate. As this case is so interesting, I make no apology for transcribing it nearly in full:—

Private J. T——, aged twenty-eight, admitted March 18th, 1855; a slight, narrow-chested, delicate man. Has frequent purging of copious stools, consisting mostly of fluid-feculent matter, with some admixture of mucus and much blood. Says “he has no pain in the belly, no tenderness on pressure.” (This was taken *cum grano salis*, for there was an evident disposition to make as light as possible of his complaint: he knew that he had been guilty of disobedience of orders in not coming to hospital sooner. Closely questioned, he at last confessed that he had been ill for several days before reporting himself sick). Admits having tenesmus. He was under treatment for acute dysentery in April, 1852. Ordered an emetic immediately, and every four hours a draught consisting of oil of turpentine, ten minims; acacia mucilage, half an ounce; tincture of opium, twenty minims; peppermint-water, one ounce. In the evening the report was: “Has passed since morning two scanty dysenteric stools.” Ordered half an ounce of castor oil and twenty drops of laudanum.

March 19th.—Eight motions during the night, copious, feculent, and semi-fluid, with some froth tinged with blood on the surface; pulse 92, soft; tongue coated in the centre. To continue draughts of turpentine, &c.—Evening: Bowels have acted three times since morning; stools scanty, and of a highly dysenteric appearance. Ordered ten grains of calomel and one of opium immediately; the same to be repeated at four o'clock in the morning.

20th.—Has had during the night eight or nine motions, fluid, dark-coloured, feculent, with a little mucus, and more blood on the top; straining very severe, and there is much tenderness on pressure over the cæcum; pulse 132, soft and rather full; tongue furred. Ordered—calomel, two grains and a half; tartar emetic, one-eighth of a grain; hydrochlorate of morphia, one-sixth of a grain; every four hours.—Evening: Bowels moved eleven times since morning; stools more dysenteric in appearance, with less of feculent matter. A sinapism was ordered to be applied immediately over the stomach; internally, sixty minims of laudanum, and half an hour after, a draught consisting

of a drachm and a half of ipecacuanha to an ounce and a half of water.—Ten P. M.: The report was that he retained the ipecacuan draught two or three minutes only; has been moved twice since six P. M.; stools very bad indeed, quite liquid, with hardly a trace of feculence, consisting chiefly of a little mucus, and a very large proportion of fluid blood; he is excessively weak; pulse rapid and thready, intermittent; surface cold, and bathed in perspiration; tenesmus severe. The opiate draught was now repeated, but this time with twenty minims only of laudanum; half an hour after, ninety grains of ipecacuan, as at six o'clock.

21st.—Has passed a tolerable night, and feels better, bowels not having been once moved since the administration of the last dose of ipecacuan, which he retained an hour and a half, then vomiting three times. He feels nausea at present. Is perfectly composed, and free from pain or irritability. Pulse 120 full and soft; tongue furred, but moist.—Evening: No action of the bowels since morning; the draught was retained three hours; he then vomited once. To have at bed-time, a draught composed of liquor acetate of morphia, thirty minims; tincture of matico, and compound tincture of lavender, of each one drachm; peppermint water, one ounce.

22nd.—Marked improvement in every respect. After an interval of thirty-four hours his bowels have at last acted, during the night, once only; stool scanty, semi-consistent, feculent, and homogeneous, without a trace of blood or mucus. He is entirely free from pain or tenesmus, and perfectly comfortable in every way. Draught last ordered to be continued every six hours.

23rd.—Improvement continues. No motion since last report. Pulse 100, jerking; tongue coated. Ordered, camphor mixture, one ounce; liquor acetate of ammonia, half an ounce; disulphate of cinchona, two grains; tincture of lavender, one drachm: to be taken every four hours. Chicken broth; brandy, half a gill.

24th.—One scanty, consistent, entirely feculent stool: pulse 90, soft; tongue cleaning. Ordered, infusion of gentian, two ounces; disulphate of cinchona, two grains; three times a day. Brandy, one gill.

25th.—Improvement maintained. No motion. Gentian draughts repeated.

26th.—Continues to get better; one natural evacuation. Tonic draughts continued. Broiled chicken.

27th.—Same report. He is very weak. Draughts continued. Ordinary diet, and brandy.

29th.—Convalescent. Gentian and cinchona draughts continued.

April 1st.—Same report. Draughts continued.

3rd.—He is still rather weak.

4th.—A trace of mucus in the stools (three since last report),

and there is slight tenesmus. Ordered, castor oil, two drs.; gentian and cinchona draughts continued.

5th.—No motion since last report, nor has he any inclination to stool. Ordered, castor oil, half an ounce; tonic draughts continued.

6th.—Bowels moved three times after last dose of oil; stools natural. Draughts continued.

7th.—Some thick, yellow mucus only passed since last report. Castor oil, two drachms, immediately; a scruple of powder of colombo three times a day.

8th.—Has passed three feculent stools, entirely free from mucus, since taking the oil. Colombo continued.

9th.—No motion since last report; has nearly recovered his strength. Castor oil, one drachm; colombo powders continued.

11th.—Discharged cured.

A more remarkable case than the above could hardly be. It is an unquestionable fact that this man's life was saved by ipecacuan, given in the doses it was, *and by ipecacuan alone*, for the opium *only* aids in enabling the ipecacuan to be retained. Moreover, I am convinced that, in the condition he was on the evening of the 20th March, by no other known means could he thus, as it were, have been snatched from the brink of the grave. Instead of dying, however, this soldier was at his duty completely cured, in little more than three weeks from his admission, desparately ill, into hospital. It will, I think, be conceded, that this last case, if not those preceding it, ought to secure for the ipecacuan-in-large-doses treatment at least a fair trial.

To render this record complete, I will now give particulars of the only case (already alluded to) in which dysentery, in spite of this treatment, terminated in the death of the patient. This case is specially interesting as showing the condition of the large intestines, and the action of the remedy upon their tissues, six days after the primary disorder had been subdued. The subject, in this instance, was a young sergeant, who, being married, of course did not report himself sick till he could hardly walk or stand. (His widow subsequently informed me that he had been ill three weeks previous to coming into hospital.) I never saw worse symptoms. The evacuations, which were excessively frequent, consisted entirely of sanies, and large coagula of pure blood, without a particle of feculent matter. The man, in short, appeared to be in a dying state. In this case the action of the ipecacuan, from the long time the disease had existed uncontrolled, was not so speedily manifested as it usually is. Not till the fourth day from the time the first ninety-grain dose was administered, did the stools assume a *perfectly* natural appearance. Having once done so, however, not a trace of blood or mucus was afterwards seen. I may here mention that in the course of

these four days he took in all two ounces of ipecucuan. During the next four days the fearful drain of the pabulum vitæ, and hardly less wearing irritation, having ceased, he had rallied considerably. But on the fifth day an unfavorable change took place, and it then became evident that abscess had formed in the liver. His pulse, which on cessation of the dysenteric symptoms, had risen in a marked degree, became again depressed, and in spite of sedulous support, he sank rapidly, and died the following day. Post-mortem examination demonstrated how prompt had been the action of the medicine in the complete cessation of ulcerative, and substitution of reparative, action. The lining membrane of the large intestine in its entire course was covered with recent ulcers of enormous size—in some places, indeed, so large as to occupy the circumference of the gut. The whole had begun to cicatrize; their edges were even, surfaces smooth, and covered with a fine epithelium; all thickening of the coats had disappeared! The bowels contained natural, semi-fluid fæces; no vestige of mucus, pus, or blood! To those familiar with the usual pathological phenomena resulting from dysentery—the universal thickening and softening; extensive ragged ulcers, and masses of sloughy *débris*, mingled with coagula; the state of things I have described in this case will appear not a little remarkable. But still more extraordinary, perhaps, is the fact, that any reparative process should have taken place under the adverse circumstances of great impairment of the vital powers—a condition resulting as well from the primary disorder as from the organic disease then hastening this poor fellow to his grave. On opening the abdomen, abscesses were seen to occupy nearly the whole of the liver. It will suggest itself that the fatal event might have been averted if ipecacuan had been given at an earlier period. From the promptitude with which it arrested the bowel complaint, pus might not have been allowed time to form.

I do not think the above case invalidates the presumption that this treatment, if resorted to in time, will at least greatly diminish the chance of absorption of pus, and this simply from the wonderful celerity with which it acts, not only in at once quelling the disease, but also repairing the mischief which that disease has caused; at least I think the appearance above described warrant belief that having, by its antiphlogistic power, subdued the inflammation of the large intestines, and by its powerfully constringent property stopped the flow of blood from their capillaries, the action of this medicine may not end here. If this conjecture is well founded, it indicates an advantage consequent upon the large-dose treatment, the importance of which cannot be over-rated.

Another and more certain benefit resulting from this treat-

ment is the apparently entire obviation of chronic dysentery, with its many and protracted miseries. Who that has to contend with a wearisome and disheartening case of this kind will not hail with delight a remedy which enables him to effect a cure in the same number of *days* that formerly would have occupied *weeks* or *months*; a cure, moreover, so *complete* as to send his patient out with a new lease of life, actually better after his illness than he was before!

As regards the *rationale* of the action of ipecacuana in large doses, I will not venture on so debatable a point to express an opinion. That it is a very energetic *tonic* is sufficiently evident; especially certain that it is a most powerful *styptic*, (this being the effect of its tonic property,) and as such likely to be of great use in some active and in most passive hæmorrhages, especially in those occasioned by exudation from mucous surfaces. In dysentery, at all events, the value of this medicine is incontestible. I believe the time may come when it will be considered as much a specific in this case as bark is in ague and sulphur in itch.

That ipecacuan in large doses has been before given in dysentery, I have already stated; I do not, however, think its inestimable properties in this form are generally known. My object in desiring to make known to the profession facts which have come under my own observation is, if possible, to obtain for this mode of treatment a more extended trial, as by its universal or even general employment I have no doubt that the mortality from a fatal and hitherto unmanageable disease may be very greatly diminished.—[*London Lancet*.

Extract from an Address before the New York Academy of Medicine, on the Prostate Gland. Delivered by Prof. VALENTINE MOTT.

DISEASES OF THE PROSTATE GLAND.

THE morbid anatomy of the prostate gland is exceedingly interesting, because it involves so many terrible and afflicting affections, and, as such, it is deserving of the closest attention on the part of the surgeon.

It is a very singular fact, one that deserves to be mentioned, although we read about it, and pass it over without thinking of it as it deserves, that this body will frequently enlarge, when other parts of the body are diminishing and shriveling in the decline of age. This is, indeed, a formidable disease, which, in too many cases, is out of our power to relieve. The pathology of this gland becomes peculiarly interesting, because it ought to have associated with it other diseases besides mere enlargement.

This is considered, by gentlemen of the profession who do not read much, to be the only disease of the prostate. There are affections of it that are very formidable besides the mere hypertrophy.

But, first, I will call the attention of the academy, for a few moments, to what is termed *atrophy* of this gland.

This gland, then, has been found diminished in its natural size. The proper capsule has been found to be filled with an aqueous fluid. The gland, then, can be atrophied, as well as hypertrophied. This gland has been described in this state by several pathologists, and by two particularly, Sir B. Brodie and Mr. Cooper, who found it as I have stated. This disease is not necessarily confined to old age, neither to youth; it seems to follow no stated law, but occurs at almost any period.

Inflammation of this gland occurs more frequently than, perhaps, many of us are aware. I am perfectly well satisfied, that inflammation of this gland is of very frequent occurrence—whether it be the secretory portion, whether it be the filamentous or areolar tissue of the gland, I shall not stop here to discuss. My impression is that it is an inflammation of the entire tissue of the gland.

The prominent symptom is, remarkable tenderness on introducing the finger into the rectum. When this extreme sensitiveness exists, with difficulty of passing water, it is evidence to my mind that the gland is very much inflamed.

We know perfectly well, also, that suppuration occurs in this gland, and produces a great deal of mischief. Lallemand, among others of distinction, states that the whole gland is inflamed. And he goes so far as to state that the openings of the glands into the urethra pour out the pus. This shows, conclusively, that the gland is inflamed. Sir Benjamin Brodie cites a case in which more than a pint of pus was discharged, from time to time, from the urethra.

This inflammation may be caused by the violent use of instruments. I say violent; this is too frequently the case. There never was a better axiom in surgery, "Make haste slowly," particularly in introducing instruments into the bladder. The violent use of these instruments, intense sexual indulgence, as well as urethritis, are capable, then, of producing deep suppuration in the gland itself. I have a specimen in my museum in which there is an abscess in one lobe, which caused retention of urine, in which the practitioner was unable to pass an instrument, and making use of violence instead of knowledge, forced the catheter through the membranous portion of the urethra, a little above the apex of the prostate, and into the side of the neck of the bladder. The retention was relieved but the inflammation that followed was fatal.

In suppuration in this gland, the pus generally takes the route into the urethra. Hence, Lallemand states that he has seen the openings from the prostate large enough to admit the end of a catheter, from which openings pus escaped into the urethra. The matter will sometimes make its way through the rectum, sometimes into the perineum, instances of which I have seen. I have also seen an opening through the urethra, just at the apex of the prostate. In one case I found an opening into both rectum and perineum. Both fistulæ were opened to the apex of the prostate. The cure was complete. A catheter was constantly used.

I now remember seeing two very formidable cases, about a year since, of this sort, which are not yet entirely cured. Upon both these I operated with a view to close the recto-urethral opening. In one instance, there was an opening into the perineum and urethra of some years' standing. I laid open the urethra from the fistula that was in the perineum, completely into the rectum and a little above this fistula that entered the rectum; the urethra was so sound, and he was so desirous of not being annoyed by the catheter, that I indulged him. I thought he might get along, as the urethra was so perfectly good that a few drops of urine only occasionally came down from the rectum. Upon close examination there was found an opening into the rectum which has not yet entirely healed. He has now returned from the South, and, in a few days, will put himself under my care again. During the winter he has been cauterized, but with no good result. He has a full knowledge of his case, and is willing to risk another trial.

I recall another instance, with which I know a gentleman before me is also acquainted. The case to which I refer is a medical man.

He has no disease of the prostate. There is an opening into the urethra, and also into the rectum. We attempted an operation, and it failed. I laid open the fistula upwards and downwards, above the apex of the prostate, and so down into the membranous portion of the urethra, hoping that it might close. He was unwilling to wear a catheter.

The doctor was, as all doctors are, exceedingly restless and irritable. He thought he could get along by care and attention; but, unfortunately, it has not healed. His greatest suffering arises from the passage of some of the fæces by the urethra.

These remarks are not extraneous to the subject, inasmuch as they are all connected with suppuration of the prostate gland. Since we had this gentleman under care, he has been subjected to the division of all the fistulous openings, and an attempt was made to effect union by means of the silver wire suture, but it

failed. He is now in a melancholy state, being constantly annoyed by fæces passing into the urethra and mixing with the urine, causing him to be an object of disgust to himself. These, then, are instances of the effects of suppuration about the prostate.

In one instance that is fresh before me, I fortunately relieved a gentleman who was of some consideration, by opening the abscess that was directly between the rectum and prostate gland, so that he was no longer annoyed by difficulty of micturition. When I first saw him, no instrument could be introduced. I took my prostatic catheter, which is two inches over the common length (the noble idea of the immortal Sabatier), and it passed without the least difficulty, and drew off the urine. Evacuating the bladder of water, I then examined per rectum, and found a large fluctuating tumor directly over the prostate and the membranous portion of the urethra. I felt the tumor very distinctly in that situation, and by separating the anus sufficiently, I was enabled to look in and see the bulging that was caused by the presence of this fluctuating mass. I introduced a bistoury, when a large quantity of pus escaped, and he had no more trouble. The inflammation of the prostate may be followed by the deposit of a large quantity of matter. Brodie says, that as much as a pint was discharged from a case that he saw; not, however, at one time.

The prostate is not generally the seat of *ulceration*. This is a process in it that is not common. It has occurred from the introduction of instruments into the urethra, which has first caused inflammation, the accumulation of pus, then pressure upon the gland, and ulceration. This ulcerative process follows. Excessive onanism and intense sexual indulgence will give rise to this inflammation.

I have known this to follow such indulgence where death has been the result of the suppuration that has thus been induced. Intense sexual indulgence, then, will produce this form of difficulty. This is attended with a great deal of pain and tenderness in the perineum, a fact which is denoted strikingly by the introduction of the finger *intra rectum*.

These abscesses in and about the prostate, will open, not only into the urethra, as probably was the case in the patient whom Brodie describes where a pint of matter was, from time to time, discharged, but they will open into the rectum, as in the two instances of gentlemen, both of whom were patients of mine.

Tubercles are occasionally met with in the prostate. These tubercles go on from softening to progressive ulceration. We have an instance recorded by Lallemand, where thirty of these abscesses were found, and as many tubercles. It must have

been considerably hypertrophied. Therefore the prostate gland is liable to have the same condition of things existing as we find in the testis, mesenteric glands, vesiculæ seminales, or where it is most frequently met, and where you are all acquainted with its existence, in the lungs.

Dr. Gross, well known to the gentlemen present, if not personally, by reputation, related a case where tubercles existed in this gland. He states that they follow the law of tubercles in other parts of the body.

Again the prostate is said by some to be affected with *cancer*. If we adopt the language of Mr. Walsh, that all forms of diseases that are heterologous are cancerous, we may consequently have it in the prostate gland. I prefer the old arrangement of cancer and malignant disease—or what does very well, hard and soft cancer. I am very well aware that they both have the microscopic characters of cancer.

These malignant forms of disease occur within and about the prostate. The body of the prostate is not so apt to be involved as in other forms of hypertrophy. There are three instances on record, one by Sir Astley Cooper, another by Mr. Stanley of London, and another by Langstaff. These three instances of malignant disease connected with the gland were in children. Therefore, malignant and serious disease of the prostate is not necessarily confined to old people.

In Stanley's case there was a tumor about the size of an orange connected with the third lobe; this tumor was soft, and was the product of a malignant formation. One of these cases was in a child 8 or 9 years of age, and the other two were during early boyhood. The great Dr. Fothergill of London died of malignant disease of the prostate. Great he was in every sense of the word. His name is known to most of those who read, but he is better known to some of us who have known his pupils and friends. Such was the character of the disease that as it grew upon him, it completely closed up the urethra, and his water had to be drawn off. He was one of the most remarkable men that ever lived, not only as a sound and noble physician, but one of the most extraordinarily virtuous men that we have any record of. He was attended by his friend and contemporary the illustrious Percival Pott—who would joke with him in relation to his bachelor life. On one occasion he said to him, "well, sir, considering you have always lived in London, you have a remarkably good urethra." "Percival," said he, calling him by his first name, "this instrument," referring to his penis, has never been used for any other purpose than to draw off my water."

I had a case a few miles from the city, some years ago, which was evidently a fungous growth about the prostate. It was, as

in Dr. Fothergill's case of a malignant form, or soft cancer. I chose to give it that phraseology. Whenever an instrument was passed, it would plainly enter the fungous mass, which would bleed freely. He ultimately died.

I have seen another instance where the tumor was not of the prostate, but a polypous growth, which acted as a valve, and gave rise to the most marked symptoms of stone in the bladder. This ought to teach us that nothing but a sound, grating against another hard substance, should justify the operation for stone in the bladder.

Under the head of cancer, I will mention a case that I had in conjunction with my friend Dr. O'Reilly, who is probably not known to most of you, but who is an excellent Irish surgeon. In this case, I thought that there could be no doubt of the existence of this disease. The patient died, but no post-mortem examination could be had to verify the diagnosis.

Senile hypertrophy.—Most persons who have read a little are led to believe that this is the only difficulty of the prostate gland. This is the last affection that I shall name. The occurrence of this affection in old age is afflicting in the extreme, inducing a melancholy existence, and embittering the last hours of life with agony almost insupportable. I do not mean to say any thing of its pathology, but simply speak of it as an enlargement of the gland. It is curious that it should occur in advanced life and be confined to the gland itself. A dissolute life is not necessary to produce it. We may instance the case of Dr. Fothergill. A bishop, a pleasant old Catholic gentleman, had this affection. I told him, I thought, considering he had lived in Rome for 33 years, he had a remarkably good urethra.

There are different phases to this enlargement. The most tormenting part of this enlargement is the third lobe of Sir Everard Home—the pathological lobe of Velpeau. Before the time of Amussat, the surgeons were in the habit of speaking of the gland as being divided into two lobes.

Most of the cases occur in advanced life, and hence the name senile. It is remarkably hard in its texture. Brodie speaks of it as having a stony hardness; Rokitansky, as a fibrous enlargement; others denominate it cystic hypertrophy, on account of the cysts found in it. Travers speaks of it as of scirrhus hardness.

This enlargement comes on very gradually, and is not accompanied at first with a great deal of pain. The first symptoms is difficulty in evacuating the last drops of water that are in the *bas-fond* of the bladder. Change of position has to be frequently resorted to. All persons with this difficulty make water better standing up. Some are obliged to get down on their elbows, so as to give the bladder a better opportunity to force the urine over the third lobe.

The treatment of this affection, as it respects remedial means, puts us at defiance. With all our resources we can make very little impression upon the prostate affected by senile hypertrophy.

If you will allow me, I will state some few facts connected with the difficulty of passing water, and the treatment, more particularly.

It is of great importance, in a difficulty of this kind, that a person should not have his bladder over-distended. I know a gentleman, a merchant, who carried a catheter in his side pocket for the purpose of relieving himself. Every thing that removes irritation is of the greatest importance, therefore it is often requisite to relieve the bladder by means of the catheter.

I know of no treatment other than palliative. We had some reason to hope, when iodine was discovered, that this great alterative would be productive of a vast amount of good; but this disease seems to baffle every thing.

I have seen more good derived from a seton in perineo, at the same time keeping the bladder empty and the bowels soluble, than anything else. In that way, the poor subjects of this malady linger on a little longer.

Can this third lobe, the pathological lobe of Velpeau, upon which nothing can seemingly act with any benefit—can this lobe, I say, be removed? This is a great question to ask, and a very difficult one to answer. I have some instruments here, which, with your permission, Mr. President, I will show the academy. They are calculated to get hold of this third lobe and remove it—that is, if the difficulty be in that third lobe. The main difficulty is in this lobe, which has been the isthmus that has been formed to constitute the gland one entire mass after foetal life.

Lastly, and not I hope to be tedious, let me call your attention to another matter, which I have left purposely to the last, from the fact that it is a very puzzling thing. It is very analogous in appearance to what old Father Pelletan called "*engorgement chronique de la membrane du larynx*"—a most admirable simile. I mean the *uvula vesicæ* of some—the *luette vesicale* of others. Dr. Baillie first described it as a membranous fold, in the form of a bar across the vesical orifice of the urethra, and has given a plate of it in his morbid anatomy. Guthrie revived our knowledge of it among the English surgeons. Some give him the credit of originality. Mercier calls it the urethro-vesical valve. Amussat denominates it *valvula pylorica*. Le Roy d'Etiolle styles these folds *bourrelets*.

Immediately at the neck of the bladder there will be an enlargement of the mucous membrane, sometimes from above downwards, but more generally laterally. This gives rise to

a good deal of difficulty in passing the urine. The catheter passes readily sometimes. It is very difficult to form a diagnosis between it and enlarged prostate. In the uvula vesicæ, the catheter passes very readily. In prostatic enlargement there is frequently great difficulty.

This state of things exists sometimes without any hypertrophy of the gland, in which case the catheter will pass in more easily. Any instrument passed into the bladder will generally be followed by a small discharge of blood, which alarms the patient, who thinks it arises from want of skill on the part of the operator, whereas it is desirable and beneficial. In the opinion of Guthrie, this is a curable affection. Le Roy d'Etiolle has great confidence in scarifications. I have seen him make them. These, with the application of caustic, constitute the principal means of treatment.

I have endeavored, Mr. President, to sum this up in as small a space as possible; as it is, I give it as a mere epitome—a mere resumé of my knowledge concerning that interesting subject—the pathology of the prostate gland.—[*Virginia Med. Journal.*

The Diagnosis of Pulmonary Consumption at its Commencement.

DR. SCOTT ALISON read a paper recently on this subject before the Western Medical and Surgical Society. The importance of diagnosis at an early period was shown by reference to facts arranged under three heads—1st, the vast mortality in advanced stages; 2d, the great destruction of the lining structure almost invariably found when the disease has long existed, in a great proportion of cases excluding all reasonable hope of remedy; and 3d, the material benefit afforded in a very large proportion of cases easily diagnosticated and treated. The number of patients under the care of the author at the Hospital for Consumption at Brompton, who here formed the grounds for calculation, is nearly 2000. The mortality in advanced cases has been very great, and very few have presented signs of permanent restoration to health; whilst the mortality in early cases has been comparatively trifling, even when long observed. About one-half of these latter cases have been greatly improved, and have presented satisfactory evidences of the disease being arrested. Numbers have returned to their employment, or applied themselves to less laborious and exposed occupations. Muscle and fat have greatly increased, cough has been removed, and the respiration has been deprived of much of its shortness. About three-fourths of these patients presented grave symptoms and the usual physical signs; while the remainder presented either well-marked physical signs without material symptoms,

or very marked symptoms with physical signs rather beneath the average weight of evidence ordinarily deemed proof of phthisis. The author regards the results as due to the early period at which disease was diagnosticated, and not to any particular method of medical treatment. Early diagnosis would be secured by a complete inquiry into the history of each case, by regarding the entire series of symptoms, and by a complete physical examination instituted at once, the chest being freely exposed back and front. The present state of medical knowledge was such and so widely diffused, that it was not likely we should be able to find any new symptoms of the disease, one which had been carefully observed for ages; but it was not unlikely that we should increase our knowledge of the physical signs. In the particulars of sound, form, and motion, additions would probably be made; but it was with respect to sound that most advance would be effected. Simple observation by the present means of auscultation would probably suffice to do much, but it was not unlikely that improvements in our instruments for auscultation would render assistance. Dr. Alison referred to certain sounds which he had frequently heard in phthisis at its commencement, and before dulness of percussion had manifested itself, or was materially pronounced. The sounds were an "arrowroot-powder" sound, very fine, and accompanying expiration; buzzing, humming, and kettle-boiling or kettle-singing sounds. He was as yet uncertain as to the mechanism of the kettle-singing sound, but was inclined to think the evidence pointed to slight pressure on the veins of the lung causing oscillations of the blood and vessels, such conditions as are produced in the neck by gentle pressure with a stethoscope or by tightened integument. This sound is continuous, and several of the patients who presented it had suffered from hæmoptysis. Crumbling sounds had been frequently heard. A great means of discovering phthisis was afforded in the differences in the character and amount of respiration; and he (Dr. Alison) believed that the instrument which he had made, which gave a stethoscope for each ear, and which he designated the Differential Stethoscope, would prove available in rendering very slight differences in respiration appreciable, which could scarcely be discovered by the ordinary stethoscope. The ordinary stethoscope necessitated removal of the instrument from one part to another, and a certain loss of time, though slight in itself, important when comparing two sensations nearly alike, was incurred. For the diagnosis of pulmonary consumption at its commencement, we should look for the signs of that disease at that period, and not for those of later periods. The acoustic properties of the lung with small points or spots of tubercle were, and must be, different from those of that lung which is so stud-

ded with tubercles, or so infiltrated with that material, that nearly all the lung tissue proper is pressed upon or obliterated, or when the lung is broken down and has little cohesion, and presents numerous cavities. (The Differential Stethoscope was exhibited to the Society.) In many examples of pulmonary consumption no dulness on percussion whatever is found; and not one of the recognized signs is present in all cases, or even at all times in the same case. We must be content with a certain amount of evidence, and that will not be the same in all cases, or in the same case at different times. Deviations from the natural configuration of the chest occurred in pulmonary consumption at an early period. These were made out by their history and by comparing one side with another. The author's Chest Goniometer would serve in discovering the deviations from the natural angles and curves, and in measuring them. The measurement at one period might be compared with the measurement at another. (The instrument was exhibited.)

Specimens of tuberculated lung, both in the early and later stages of the disease, were exhibited; and they served to prove that the physical signs in the different conditions of lung must greatly vary, and that the lung dotted with solitary tubercles the size of mustard-seeds, would afford few if any of the ordinary signs, and chiefly produce deviations in quality from the natural respiratory sounds, and some such delicate new sounds as had been referred to. The author was not prepared to say that these delicate sounds would not be found in other morbid states besides phthisis, but the same limitation held in respect of all other sounds.

The examination of the sputum, and the discovery by means of the microscope of tubercle and lung tissue, were referred to.

[*London Lancet*, and *American Jour. of Med. Sciences*.]

On the Influence of the Cervical Portions of the Sympathetic Nerve and Spinal Cord upon the Eye and its Appendages.

DR. JOHN W. OGLE read a paper on this subject before the Royal Medical and Chirurg. Society, June 22nd.

The main object of this paper was the application to clinical medicine of the various experiments which have from time to time been performed, as showing the influence possessed by the sympathetic in the neck and the upper part of the spinal cord upon the iris and upper eyelid. Experiments and dissection as regards the lower animals have shown that the curtain of the iris, containing as it does two sets of muscular fibres, a circular set by which the pupil is contracted, and a radiating set by which it is enlarged, is under the domination of two separate and

distinct sources of innervation. The third cranial nerve is found to control the circular or contracting fibres, and the sympathetic, by virtue of communication with the lenticular ganglion, is found to control the dilator or radiating fibres. Hence if the influence of the third pair be destroyed, the pupil becomes dilated, inasmuch as the dilator fibres, those presided over by the sympathetic, are unopposed; again, if the influence of the third cranial pair be left unimpaired, and that of the sympathetic be destroyed by section or extreme pressure, then the pupil becomes contracted. The author dwelt upon the history of the various experiments upon which the above statements are made, and also upon those from which it is concluded that in certain parts of the spinal cord resides the power or influence which acts upon the dilator fibres of the iris passing to that structure through the sympathetic via the roots of certain cervical and dorsal nerves. From these latter it is apparent that the same paralysis of the dilator fibres of the iris which follows section of the sympathetic in the neck follows also the severance of such fibres as connect the sympathetic with the spinal cord, as also the section or destruction of the spinal cord itself in certain parts. Accordingly it might naturally be expected that any cause of extreme pressure acting upon the various portions of the nervous system before alluded to would, as in the various experiments before adduced, cause a contracted state of the pupil on the side corresponding to that on which the extreme pressure existed. And thus it was that Dr. Gairdner, of Edinburgh, first sought to explain those cases in which, along with an intra-thoracic aneurism, a contracted state of the pupil coincided. These cases of his were detailed, several of them not having been hitherto recorded, and to these others were added of his own observation, as well as some from other sources. Cases were next given in which pressure from aneurism upon the sympathetic in the neck had produced contraction of the pupil. In the third place, instances were adduced in which extreme pressure from other causes than aneurisms had produced a like effect upon the pupil, as in the case of enlarged glands, carcinomatous deposit, etc. In the fourth place, bearing in view the intimate connection between the sympathetic main branches in the neck and the cervical part of the spinal cord, he drew attention to several cases in which a contracted pupil had been observed in injuries of the spinal cord itself. But in addition to a contraction of the pupil as brought about by section of the sympathetic, spinal cord, etc., as before spoken of, experimenters have also found that irritation or galvanism of the same parts of the nervous system will bring about a dilatation of the pupil, and that this dilatation may be effected even when section or extreme pressure has already given origin to contraction of the pupil. Accordingly in these

physiological facts an explanation was sought of certain cases in which pressure from aneurism, diseased products, etc., appeared to produce, not a contraction but a dilatation of the pupil in man; and he instanced, in the 5th place, several cases in which the pressure from various sources was inestimably so much in extreme as to be, in fact, a source of irritation or stimulus, acting in the same way as it was found in animals, that any stimulus, mechanical, chemical, or galvanic would act upon the sympathetic. In no other way could he explain the dilated state of the pupil which existed. But besides the above-described effect upon the pupil of the eyes, in enumerating the various experiments in which the sympathetic, etc., was divided, special attention was drawn to a dropping of the upper eyelid, or ptosis, which on several occasions was observed. This phenomenon was explained on the supposition that along with the sympathetic fibres to the iris, those to the third cranial pair are also paralyzed, and hence the levator of the upper eyelid, which is supplied from the third pair, is deprived of power to a greater or less degree. One or two cases were also adduced in which ptosis of the upper eyelid was observed in connection with pressure about the neck, from aneurism of other sources. He offered the same explanation of the convergent strabismus which, in the hands of certain experimenters, was, along with other results, found to depend upon a division of the sympathetic cord in the neck. He supposes it to have existed by reason of paralysis of such fibres (in several animals, five or six in number) as pass up to join the sixth cranial pair of nerves, by which the power of this muscle becomes weakened, and its action counterbalanced by the internal adductor muscle.—[*Medical Times and Gazette*, from *American Jour. of Med. Sciences*.

Notice of Epidemic Sore Throat, (Diphtherite,) as prevalent in Albany, N. Y. By S. D. WILLARD, M.D.

FOR four months past there has been a strong predisposition to affections of the throat in this community. These affections produced, doubtless, by the same epidemical influences, have existed under well defined and distinct varieties.

The first, and by far the most common form of the disease is *Pharyngitis*. It is a diffused inflammation covering the palate, uvula and tonsils, which become highly vascular, and give rise to a sensation of dryness and roughness in the fauces. The general health and appetite is undisturbed, and the only treatment required, is one or two applications of nitrate of silver, or an astringent gargle. There have been hundreds of cases of this mild form, which, in severity, has been scarcely sufficient to style disease.

The next variety is *Sloughing Tonsillitis*. It exists more particularly among children and young persons—those under 20 years of age. Upon looking into the fauces, it is at once observable, that the tonsils are swollen, in some cases so as to nearly touch each other, and on their surface are white spots, in size varying from a shot to a half dime. This high degree of inflammation and suppurative process, comes on suddenly, and its progress is through in eight or ten days. These white ulcers have thick edges, and look deep seated. They become more extensive, involving the whole of the tonsils; but in most instances, the slough is thrown off, and resolution ensues. In a few cases, the tonsils have been of a dark mahogany color, and the ulcers assume a greenish cast, and have been followed by gangrene, mortification, and consequently death. In some of these cases of sloughing tonsillitis, there has been a pseudo-membrane upon the roof of the mouth, the palate, uvula and tonsils, which by the process of suppuration, has been detached and thrown off.

The third and most fatal variety is *Diphthérite*. This has prevailed mostly among children under seven years of age. Its onset is sudden and insidious. The false membrane usually having been formed when the first symptoms of illness attracted the attention, and occasionally, when the attention was directed only by the alarming condition of other children of the family. The membrane rapidly extends upon the palate, tonsils, the rima glottis, and into the larynx, producing mechanical obstruction to respiration, as in croup, and the patient dies in precisely the same manner.

There is yet a fourth, which if not a distinct variety, is at least a modification of all of them. It is styled by a medical friend of mine, in expressive language, "*the horse-distemper variety*." In this, there seems to be a blood poison, and the mucous membrane of the nose, fauces and bronchi, throw off a thick, offensive, acrid secretion, and there follows before death incipient mortification and decomposition. The congestion extends to the cellular tissue and skin about the throat and chest. As in many of the cases of sloughing tonsillitis, the parotid glands become affected and swollen. In this variety there is no false membrane. It cannot therefore be *diphthérite*; yet it is a malady co-existent with it. From this form of the disease, nearly all die. Of the three last forms, within three months, about fifty have died. It is difficult to estimate, accurately, the number of cases that have occurred. Of the first and mild form of the disease, doubtless there have been a thousand cases, most of which, under less apprehensive circumstances, would never have come under the eye of the physician. The similarity of sloughing tonsillitis, and the sore throat of scarlatina maligna, is worthy

of notice. The almost entire absence of scarlatina, for the three past months, and its prevalence the three months preceding, is a fact that should not escape observation. Aside from the local treatment in severe cases, the strongly marked tendency to debility, and prostration, calls early for invigorating and strengthening remedies. In several families, two to four children have died of one form or another of the disease. My attention has been called to the greater prevalence of the *diphthérite* form, in the southern part of the city,

The disease *Diphthérite* has been accurately described by that eminent French pathologist, Mr. Brettonneau, as it prevailed at Tours, and by him recognized as a distinct disease, and embraces that form of malady here spoken of under the *third* variety. A full, clear and vigorous article on this subject, from the pen of R. J. Fourgeaud, M. D., is published in the *Pacific Medical and Surgical Journal*, (San Francisco, California,) for October, 1858. The disease known as diphthérite, or membranous sore throat, having prevailed in the valley of Sonoma, California, in 1856. The epidemic in Albany is subsiding.—[*Medical and Surgical Reporter*.

On the Condition of the Cervix Uteri during the latter half of Pregnancy. By M. CASEAUX.

DRS. COSTILHES, BOYS DE LOURY, and BENNETT, maintain that during the early months of pregnancy ulcerations of the cervix uteri are of great frequency, and exert a powerful influence in the induction of various pathological conditions. M. Caseaux believes these statements to be greatly exaggerated; and at all events in the latter half of pregnancy, to which his own observations apply, they are not borne out. Examined by the speculum, the mucous membrane of the vulva, the vagina, and the free surface of the os itself, is found of a dark colour, which becomes deeper and deeper, until towards the end of pregnancy it has attained a dark violet. A person unaccustomed to this examination, and especially if he has not previously ascertained the position of the cervix by means of the finger, may have considerable difficulty in engaging this part within the extremity of the instrument—this arising from the anteversion of the body throwing the vaginal extremity backwards.

“As the *toucher* would lead one to expect, the modifications presented to the eye by the vaginal portion of the cervix, are very different in primiparous and in multiparous women. In both, the cervix is of a deep violaceous, wine-lees colour: but in the primipary, this is pretty uniform throughout its whole extent. The external orifice, the lips of which are much softened, is in general more or less rounded; but although it is larger

than in the unimpregnated state, it admits of the penetration of the eye with difficulty, even when the valves of the speculum are considerably expanded. The circumference of the os, and the free portion of the cervix, rarely exhibit any traces of ulceration; but it is common enough to observe series of cherry-red granulations, true fleshy vegetations, varying in size from a pin's head to a large pea, which bleed on the slightest contact. In the woman who has borne a certain number of children, the cervix is in general much more voluminous, so that there is some difficulty in completely embracing it by the speculum. The lips of the os seem divided into several fragments, this segmentation, the result of lacerations that have occurred during former deliveries, rendering it very irregular. In consequence of these numerous solutions of continuity, the orifice is much larger and much more easily dilatable, so that the eye is enabled with ease to explore all the cavity of the cervix. The walls of this cavity are very unequal, and present irregular series of fungous projections, separated by more or less deep depressions. Some of these prominences are transparent, being probably due to hypertrophied follicles, but others resemble true flabby (*mollasses*) vegetations. Sometimes these are covered by a protective epithelium, but it is not unusual for them to be deprived of this, and then to bleed upon the slightest touch. It is especially within the furrows which separate them, that more or less deep linear ulcerations are often observed. These ulcerations sometimes so increase in size as to occupy a pretty considerable surface, and then they are easily seen; but generally they are hidden in the depths of the anfractuosités, and in order to perceive them, after well cleansing the surface, we must put the cervix on the stretch by opening the instrument widely. I have very often met with these ulcers in multiparous women, and I believe that I am within the truth when I say that I have observed them in seven-eighths of the cases, confining this statement to the last third of pregnancy. Supposing that a singular chance has not favoured my researches for a long time past, it is probable that what I describe here is the normal condition, and should not be considered as a pathological state, but simply as a consequence of the progress of gestation. Resembling in this respect the deep colour, the tumefaction, the ramollissement, and the almost fungous condition of the walls of the cervix, which are proper to pregnancy, and in nowise influence its progress, these ulcerations have the same origin, and should be considered as the result of excessive congestion. I believe that they are of no more importance. I am especially convinced of their innocence, and believe that all treatment of them is much more mischievous than useful. . . . If I am not mistaken, then, and if the peculiarities I have been describing belong to pregnancy, and are

only an exaggeration of the modifications of the structure and the vascularity of the parietes of the uterus, this condition should disappear with the cause that gave rise to it. Like vomiting, varices, hæmorrhoids, and all the sympathetic disturbances of pregnancy, it should cease with this. And that is precisely what takes place, and we may lay down as a rule, that no traces remain five or six weeks after delivery; the ulcerations which we sometimes meet with in women recently delivered, do not, in fact, present the same appearances, and generally are referable to another origin." (pp. 453—456.)

The statements made by Boys de Loury, Bennett, and others, as to the frequency with which abortion and various puerperal diseases are produced by ulcerations occurring at an early period of pregnancy, are so discordant with the observations the author himself has made, that he cannot but tax them with exaggeration. It is of importance to distinguish between ulcerations that have preceded pregnancy, and have persisted and increased since its occurrence, from those which have only become developed subsequently to the formation of the germ. The former, becoming irritated under the influence of exertion, and especially by excessive coition, may easily induce the contractility of the body of the uterus, and bring about premature expulsion. But the latter, in the author's opinion, rarely exercise a similar influence; so that however proper treatment may be in the one case, it does not seem called for in the other. He also doubts the justice of Bennett's statement, that these ulcers are a frequent cause of obstinate vomiting in pregnancy; and since he has been in the habit of treating this affection by the application of belladonna to the cervix, he has had the opportunity of examining four primiparæ, reduced by it to the last stage of marasmus, in whom the cervix remained perfectly healthy.

M. Laborie, in his report upon this paper, observes that M. Coffin, drawing his materials from the practice of M. Richet, describes precisely the same fungous ulcerations as those treated by M. Caseaux; but that he attaches much more importance to their presence, at the same time that he admits that no kind of treatment has been applied with success. Of seven women examined by M. Laborie himself in M. Cullerier's wards at the Lourcine, there was but one who did not exhibit ulcerations. She was a primipara, and had reached the fifth month. Two other primiparæ, exhibiting the ulcers markedly, were three months gone; and the four multiparæ had respectively attained the periods of five, seven and a half, and nine months. In these cases no special means of treatment were adopted, nor is it probable that the ulcerations would ever have been discovered without the use of the speculum.—[*British and For. Med. Chir. Review*, from *Mémoires de la Société de Chirurgie de Paris*.

A Severe Case of Hæmoptysis successfully treated with Tincture of Iron. By ISAAC REMINGTON, M. D., of Philadelphia.

J. W. C., aged about thirty-six years, married, of scrofulous habit and consumptive tendencies, having had occasional hemorrhage from the lungs during the past fifteen years of his life, was attacked with Hæmoptysis, on the 3rd of March, 1857. On applying for advice, I prescribed tannin, combined with ipecac. and opium, in form of pill, and directed one every two hours, recommending a state of rest and inaction, both of the lungs and body, by carefully abstaining from loud speaking and all bodily exercise. From over exertion in going up and down stairs, and continuing at his occupation of superintending a number of sewing machines, the hemorrhage rapidly increased, so that it became necessary to employ other remedies—to enjoin a state of absolute rest in a recumbent posture—rigidly to enforce a refrigerant regimen, with cooling drinks, potas. nit. v.s., &c.; and with a view to divert action from the affected organs, we directed a warm, stimulating foot-bath, with warm applications to the extremities.

Notwithstanding the observance of the above treatment, the returns of hemorrhage, which were of a bright arterial hue, became more frequent, abundant and alarming in their character. The ruptured vessels pouring out their contents into the air passages, would excite irritation and cough by the presence of the effused blood, which of course was expelled with force, causing a recurrence of the hemorrhage at irregular intervals of half an hour or one hour.

Homœopathy was now had recourse to, and after four or five days consumed in the unavailing employment of its *non entities*, I was again solicited to take charge of the case (the patient and his friends fully expecting it would terminate fatally), on condition that there was to be no further interference on the part of friends, and that my prescriptions and advice should be implicitly followed, I reluctantly resumed attendance.

March 10. Visit 9 o'clock, A.M. I ordered *tr. ferri mur.* gtt. x, every hour in sweetened water, and to suck a raw egg every two hours. At my visit at 6 o'clock, P.M., the hemorrhage recurring very profusely, I administered gtt. xl at one dose. No discharge took place till 5 o'clock next morning, at which time I was called up for advice.

11th.—At 12 o'clock, M., my friend Dr. Gilbert saw the case with me, in consultation. Our patient continued to experience occasional returns of hemorrhage during the day, although the dose of the iron was augmented to xx gtt. every two hours.

12th.—Visit 9 o'clock, A.M. Some improvement apparent. Had a return of hemorrhage at 11 A.M. Met Dr. G. at 12.

Agreed to continue tinct. ferri mur., suck raw eggs, to give the iron in gum water as a vehicle, to give ice-cream, and occasionally ice. At 4 P.M., there was a slight return of hemorrhage.

13th.—A slight return of hemorrhage at 4 A.M. Visit in consultation at 12 o'clock, M. Agreed to give gtt. xx tr. ferri mur., every hour. Visit 5 P.M., continues to improve; visit 10 P.M., no return of hemorrhage, pulse much improved. The longest interruption of the hemorrhage now occurred, affording an encouraging prognosis.

14th—Visit 9 o'clock, A. M. A slight return of hæmoptysis at 4 A.M., which is but once in 24 hours. Visit 5 P.M.; takes gtt. xxx. of the iron every two hours in gum water, takes raw eggs, oysters, ice-cream, farina, ice, etc., as diet. Improvement progressive—pulse fuller, slower and stronger, respiration easier and more profound. Patient is able now to lie on his right side, after maintaining a sitting, upright posture for ten days. Bowels moved once in 4 or 5 days by enemata.

16th.—No return of hemorrhage to report; and from this date forward he continued to convalesce rapidly and perfectly.

19th.—Pills of *ferri, ext. quas.* and *rhei* were substituted for tinct. ferri mur.

March 24th, our patient left his bed, and, in a few days, was able to walk out for the benefit of exercise in the open air.

The amount of blood discharged during this attack of hæmoptysis, lasting about ten days, could not have been estimated at less than one gallon.

So profuse a hemorrhage occurring in a constitution impaired by frequent previous attacks, associated with a strong and well-marked hereditary predisposition to phthisis, and to eventuate in recovery by the use of *tr. ferri mur.*, affords us a high degree of satisfaction; and with the hope that its details might prove not altogether devoid of interest, we submit it for publication.

[*Med. and Surgical Reporter.*]

Abdominal Typhus.

FROM 100 dissections, from upwards of 1000 cases, Dr. Lebert, of Zurich, deduces the following results:

Intestinal affection is not always present, and bears no relation to the intensity of the disease—appearing rather to be a co-effect of the fever than sufficient for its explanation. In fatal cases, the intestinal affection has not only formed a slough or sore, but has even frequently ended in resolution; and it is not always easy to discover whether the intestinal affection has entirely failed, or whether it has only been completely resolved. The intestinal affection of typhus bears a very strong resemblance

to that of cholera, only in the latter there is usually more serous infiltration; it consists entirely in an increased formation of the normal cell-elements, and there is no such thing, as far as our author has seen, as a specific typhus exudation; while so many other diseases which have a typhoid condition, as pyæmia, severe icterus, meningitis cerebro-spinalis, and the grave cases of acute exanthemata, are accompanied by swelling of the intestinal glands and the spleen, that we are involuntarily led to the conclusion, that there is in many infectious diseases a peculiar connection between the pathological poisoning and those glands whose office it is to prepare the blood elements; and therefore the intestinal alterations in typhus have a much deeper and more general signification than is usually believed. From the eighth to the eleventh day, the cellular infiltration of the mesenteric glands, also that of the isolated and agminated glands, is very distinct; they are soft and swollen, as are also the glands of the large intestine. Very soon, erosions, ulcerations, and other anatomical alterations attendant on intestinal catarrh occur, which are most frequently observed from the eleventh to the fifteenth day; and in this very period, also the phenomena of resolution are often observed. But the intestinal alterations of typhus are very far from being bound down to typical phases; and there is even an occasional disproportion between the extent of the disease in the isolated and agminated glands, the latter being peculiarly its seat, while it is often entirely wanting in the former. In the course of the third week the intestinal alterations are at their height; in one case only, pus was found in the mesenteric glands, partly infiltrated, partly in the fluid state (as an abscess). In the fourth week the ulceration generally continues, the catarrh of the colon and ileum already retrogressive; the marrow-like infiltration of the mesenteric glands at its height, and partly retrograde. One man, however, dead on the twenty-fourth day, had only a few agminated glands slightly swollen, and the seat of superficial ulceration. Another case, dead after the twenty-eight day, showed undeniable symptoms of resolution without ulceration; the mesenteric glands were partly swollen, partly retrograde; Peyer's patches of a slaty hue, firm and granular, partly shrivelled, and only one small ulcer in the processus vermiformis. Tendency to cicatrization was only once observed on the twenty-fourth day. This stage occurs generally much later than authors have supposed. In the fifth week we have for the first time a greyish coloration of the edges of the ulcers, which now begin to fine down, but show only exceptionally a tendency to reparation. In this week the author observed three cases of resolution without ulceration, in only one of which was there trifling ulceration. In one case, dead after the thirtieth day, Peyer's patches were still slightly

swollen, grayish yellow, covered with a few small brown ecchymotic spots; the neighboring mucous membrane hyperæmic; the spleen large and soft; the mesenteric glands enlarged. Another case died on the thirty-fifth day; the spleen was still large and soft; most of Peyer's patches had a slaty-gray appearance; and only a few isolated glands showed traces of cicatrized ulcers. During this week the mesenteric glands are generally partly diminished in size, partly soft and swollen, and also of a slaty hue, particularly on the surface, whilst the interior is of a dull-yellow, cheesy aspect, as of shrivelled nuclei, already undergoing molecular disintegration; these disintegrated elements are probably subsequently absorbed, and the glands return to their normal state. During the sixth week, reparation proper commences; the edges of the ulcerations long retain their slaty hue, and the different portions of the intestinal canal are unequally advanced; the mesenteric glands are by this time restored to their normal state. In this week also the author found a case of undeniable resolution without trace of ulceration; Peyer's glands being slaty in hue, partly reticulated, partly granular and shrivelled. In the seventh week complete resolution is the normal condition; yet our author found three cases in which, although the edges of the ulcers were slate-coloured, their basis showed no trace of healing. Such are the cases in which tardy perforation occurs, and those also in which the patients sometimes die in the third month from sequelæ. Once in the eleventh week, and another time after three and a half months, our author found cicatrization uncommenced; in both cases a diphtheritic diarrhœa, accompanied by numerous ulcerations in the colon, was present; our author supposes that fatty degeneration of the textural elements of the ulceration is the cause of its not healing. He mentions as very remarkable two cases, one dead in the ninth week, the other in the eleventh, in both of which distinct villous granulations (Zotten) were produced on the surface of the sore, while in every other case the cicatrix had a striped fibroid appearance, with scattered gray pigment granules and corpuscles; such cicatrices were also distinctly vascular. As one-fifth of our author's recorded observations comprised cases in which the intestinal alteration failed entirely, were very trifling, or ended in resolution, bearing no relation to the severity of the disease, which severity bore also no relative connection to the typhoid diarrhœa, so he concludes that the distinction between abdominal typhus and exanthematic typhus without intestinal alteration cannot be strictly defined; much must still be left for future observers. With respect to the other textures and organs, our author found, 1st, an important relative frequency of peritonitis in ileo-typhus; nine cases of perforative, and seven of simple peritonitis, in 100 deaths; besides numerous

unmistakable recoveries from similar accidents, extending in time from the seventh day to the fourth month, being most frequent in the second month. The splenic enlargement, more or less constantly present, bore no relation to the intensity of the typhous process. Splenic softening, depending on hyperæmia and increased cell-formation, was a much more regular concomitant. The liver, in more than one-fifth of all cases observed, was more or less fatty; and in every case analyzed by Professor Stadeler, leucin and tyrosin were found, while, so far as known to our author, sugar has not been found in a typhous liver; so he considers it extremely probable that alterations of the liver not only exist during the typhous process, but probably have an intimate relation to it. The kidneys in the first two weeks were somewhat swollen and hyperæmic; later in the disease the kidneys were twelve times found to present more serious alteration; the size normal, or but slightly increased; the cortical substance decolourized, with here and there vascular points and stripes, the decolorization intruded partly on the pyramids; and here there was found, first, on the fourteenth day, generally about the fourth week, increased cell-formation in the convoluted ducts, mixed with a fine granular, albuminous infiltration, which subsequently seemed to undergo fatty degeneration; in most of these cases no albumen had been detected in the urine during life. A few cases of ileo-typhus complicated with Bright's disease recovered. The heart in the later stages of typhus becomes flabby, thin and pale, and frequently fatty, proving thus a probable source of death in protracted cases. Ulceration of the larynx, observed by Rokitsansky, Vogel, and Rheiner, were never seen at Zurich; pleurisy was present eight times; once the typhus commenced with pleurisy, which at death, on the forty-sixth day, was so far healed that only adhesions and increased injection remained. Occurring at an early period, it generally terminated favorably; and even as sequela, which it most frequently was, it was only then very serious when double, or the patient much reduced. The most frequent alteration of the lung was hyperæmia, with dark red, violet, or a more brownish colour, compact appearance, and a smooth cut surface, with distinct collapse of the lung-cells. This condition has been termed carnification or splenization when extensive, and atalektasis when more circumscribed. The author observed this condition twenty-one times diffuse and lobar, and six times scattered and lobular. The diffuse form is much more common, if to it we add those numerous cases in which hypostases showed a tendency to pass into carnification. The lobular atalektasis had a direct relation to the bronchitic affection, and was more frequent when that was severe.

Recent emphysema is also by no means an infrequent con-

comitant of typhus. Lebert observed it thirteen times, and connects it with intense capillary bronchitis. Pneumonia was a rare complication, occurring but five times—twice lobular, and three times general and lobar; apoplexy of the lung occurred eight times. Catarrh and bronchitis, with their sequelæ hypostasis and carnification, seem to belong to the typhous process; while laryngitis, pleurisy, pneumonia, etc., are only accidental complications or sequelæ, and tuberculosis and typhus seem to a certain extent to antagonize one another. The nervous centres afford no anatomical explanation of the serious cerebral symptoms so often occurring in ileo-typhus. Meningeal hyperæmia, and œdema under the arachnoid, are very frequent. Lebert found, however, only thrice increase of the ventricular fluid, and also three times effusion of blood in the membranes, and twice effusion of blood in the brain substance itself; once there was meningitis with sero-purulent exudation on the surface of the brain.—[*Edinburg Med. Jour.*, from *Prager Vierteljahrsschrift, f. d. Prak. Heilk.*

Communication from the Clinical Department for Syphilitic Patients at the Charité in Berlin. By Prof. V. BAERENSPRUNG, (*Annalen der Berliner Charité*, tom. vi. 1.) Translated for the *Lancet* and *Observer*. By W. KRAUSE, M.D., Cincinnati.

THE PRIMARY SYPHILITIC ULCER.

THE peculiarities ascribed to the primary syphilitic ulcer, its round form, sharp edge, lardaceous bottom, etc., are neither always well marked, nor sufficient at all to distinguish it from other similar affections. As a diagnostical means, however, inoculation as introduced by Ricord, has gained a wide reputation, so as to mark even an important epoch in the history of syphilitic diseases, by proving the specific and unique nature of the syphilitic virus as well as its actual difference from the gonorrhœic to a certainty, while it rendered the non-contagion of the secondary affection at least probable. The inoculation of the syphilitic virus, however, is by no means an insignificant operation. The pustule rising at the point of inoculation, shows nothing characteristic of its nature; this can be known only by the ulcer, developing itself from the pustule. It is, therefore, in order to obtain a positive result, necessary to leave the pustule alone for several days, before destroying. The longer, however, this is deferred, the greater is the danger of infection of the system. The destruction, to be successful, must be accomplished by means of an active cauter, such as the caustic potash or the Vienna paste, which operation is not at all insignificant to the patient. Finally, the inoculated chancre may assume, before or

after its destruction by the cauter, a gangrenous character, it may spread so as to require a much longer period for its cure, than the ulcers, from which the inoculating matter was taken. Apart, however, from these possible disadvantages of inoculation, some other circumstances, diminishing its diagnostical value, urge themselves upon our consideration. For, the chancre, secreting an inoculable matter only during its first stage, we are not justified in inferring the non-syphilitic nature of a doubtful ulcer from an unsuccessful attempt at inoculation. The inoculation of other pathological secretions, moreover, gives rise sometimes to products, more or less similar to an inoculated chancre.

In order to prove the latter assertion, Dr. V. Baerensprung made a series of experiments, by inoculating the chancrous matter and other morbid secretions, the results of which he condenses into the two following propositions :

1. Recent laudable pus, inoculated in the common manner, causes no reaction whatever. Stagnant pus, or other pathological secretions, in which decomposition has commenced produces a superficial inflammation of the skin, presenting itself under the form of an impetigo or ecthyma-like pustule at the point of inoculation, which dries up after a few days, without leaving any trace of itself, rarely it leads to superficial inflammation; ichorous matter, however, and other rotting animal substances, if inoculated, give rise to a pustule, tending from its beginning to ulceration, which spreading on the surface and eating slowly into the tissues, heals by leaving a radiated cicatrix. Very similar is the effect of the inoculated syphilitic pus, only with this difference; the primitive pustule is larger and the ulcer following it spreads with greater rapidity.

2. A pustule rising at the point of inoculation, is no proof whatever, for the syphilitic nature of the inoculating matter. Even when the pustule transforms into an ulcer, its syphilitic character still remains doubtful. Should, however, this ulcer spread rapidly, while putrid decomposition of the inoculating matter can be excluded, then, no sooner, a sufficiently certain criterion for the syphilitic nature of the ulcer has been found.

To obtain farther revelations, the author took pains to elucidate the process of syphilitic ulcerations by microscopical examination. On the first day after the inoculation a vesicle appears filled by a serous fluid, and under the vesicle, corresponding to the inoculated point, a little whitish core. The membrane of the vesicle is formed by the epidermis elevated from the cutis, while its contents are a serous matter exuded, in which corpuscles of pus of the ordinary form, and numerous swollen cells, from the rete Malpyghii, are to be found. Thus far, therefore, this vesicle does not differ from any other, caused by a superficial dermatitis. Peculiar, however, is that whitish core imbed-

ded in the corium. It contains cellular fibres, surrounded by a number of corpuscles of pus, so as to become distinctly visible only after an ablution by water. The object gets still clearer by an addition of acetic acid, which leaves the nuclei of the cells solely perceptible, cellular fibres disappear, and in their places bundles of numerous, sharply contoured elastic fibres are seen, exactly of the same qualities as normally found in the thick cellular substance of the corium. That little core, therefore, is nothing else but a portion of necrotic tissue, soaked by pus and surrounding the point of inoculation. This core is thrown out the next day. In its place a little funnel-shaped ulcer is found, increasing in size during the next days, and showing the same character as a chancre produced by natural contagion. It is always covered with that dirty white or yellowish layer, commonly called the lardaceous bottom of the chancre. It consists of a soft pulpy mass, which can not be pulled or wiped off, in the form of a membrane, which, however, admits of removal by abrasion, and shows the same microscopical properties as the above core, to-wit: cellular and elastic fibres, with a great many cells of pus. Presently under this layer lies the intact, but hyperdermic tissue of the cutis, bleeding after the slightest touch. The lardaceous bottom of the chancre is, accordingly, the most superficial portion of the corium, mortified and infiltrated with pus. As often as removed by scratching it re-forms, while the ulcer at the same time spreads in circumference and depth. Hence we infer, that the spreading of a chancre is owing to the mortification of tissue, progressing by layers. This process, beginning at the point of inoculation, it is, furthermore, apt to presume, that the ulceration is started by the immediate contact with the syphilitic virus, which, reproducing itself, like all contagia, exercises the same effect in circles, widening more and more. The formation of pus, accompanying the process of ulceration, appears as the product of inflammation, kept up by the adjacent tissues, which have yet escaped destruction.

The necrotic exfoliated elements mingle with the pus, thus forming the contagious matter of the chancre. When collected on a watch glass, in large quantities, it appears as a turbid fluid, in which whitish flakes are suspended. This fluid consists of serum and corpuscles of pus, while the flakes are the mortified fibrous elements of the skin with many cells of pus attached to them. Besides these and other accidentally admixed epidermic cells, molecular and fatty granules, no other elements are to be found. The vibrions found and described by Vonni, never came under observation.

The destroyed elements of tissue are found in the matter secreted by the ulcer as long as the progressive period of the chancre lasts, if this is brought to a close either by cauterization

or some other anti-syphilitic treatment, the properties of the ulcer and its secretion change. The ulcer cleans itself, the necrotic tissue, covering its bottom disappears. Sometimes, not always, however, its place is filled by another white layer, differing very materially from the former by allowing its removal, in form of a membrane. This latter membrane consists of fibrine exuded by the inflamed bottom of the ulcer. It sometimes forms again and again after being pulled off, until it gives room to the formation of vascular and cellular tissue, which goes on under it gradually filling the loss of substance, occasioned by the ulcer and finally consolidating itself into a solid cicatrix. In other cases such exudation of fibrine is not observed, the bottom of the ulcer begins to granulate directly. In this, its stage of reproduction the chancreous ulcer does not differ the least from any other granulating ulcer. Its pus becomes thicker, no other elements, but the common cells can be detected in it. If transferred by inoculation it manifests no more virulent qualities.

It is known that a series of chancres have been distinguished from the common one. Several of them after Ricord's example have been comprised under the generic term of phagedænic. Now, strictly speaking, every chancre possesses some of the phagedænic character. If, therefore, a certain kind is thus particularly denominated, no qualitative, but a merely quantitative difference can be meant by it. Let us look first at Ricord's chancre phagedénique diphthéritique ou pultacee. This owes its name to a pulpy layer, covering its bottom, which layer does not only bear external resemblance to the diphtheritic masses observed on mucous-membrane. Diphtheritic characterizes itself everywhere by the decay of the matter infiltrating the morbid tissue and the diphtheritic chancre with its pulpy bottom shows no marked difference from the lardaceous bottom of the common chancre. Both consists of mortified tissue with corpuscles of pus, with this difference only, that the latter forms a thicker layer, because its process of destruction goes on quicker. The diphtheritic chancre is observed mainly on persons whose system is in a debilitated or dyskratic condition, before contagion took place. The want of reactive power in such individuals is, therefore, to be assigned as a reason for the violent spreading of the ulcer. On the same ground the other characters peculiar to this chancre, explain themselves, for instance, its less regular form, the more cedematous, than inflammatory condition of the surrounding parts, the slight degree or utter want of sensitivness, which singularly contrasts with the extent of the ulceration. The doctrine, that all exulcerating chancres are not followed by constitutional syphilis is certainly false in its application to the diphtheritic chancre. The general infection here, as always, announces itself by the induration of the

bottom of the ulcer, corresponding in extent to the periphery and depth of the ulcer. This kind of hardly indurated diphtheritic chancres have been promoted by Ricord to the degree of a proper species under the name of chancre phagedenique par excès d'induration.

The same cause, which with invalid constitutions promotes the enlargement of the chancre, retards also its healing. The restitution of the destroyed tissue proceeds slowly, nor does it ever become complete. More or less extensive defects of the prepuce glands or labia remain forever, and the surrounding hardness does not disappear, until after a long time. If, moreover, neglect on the side of the patient makes its influence felt, such ulcers may be stationary for months, until they finally become incurable.

The direct contrast to this form is the inflammatory chancre. Ricord's chancre inflammatoire a tendance gangreneuse franche, to which must be ranked the chancre phagedenique gangreneux, for both differ only by this, that the latter has actually terminated in gangrene, which is to be dreaded with the former. The inflammatory chancre is usually met with on robust, plethoric individuals, characterizing itself by violent pain and a highly inflamed halo around the ulcer. If this inflammation is increased by the irritation from the clothes in active exercise, stimulating diet, spirituous liquors or pressure, caused by a narrow or swollen prepuce, the result is gangrene, spreading far beyond the original boundaries of the infection, mortifying with great rapidity the organic substance and leaving indelible defects. On microscopical examination of the bottom of and matter secreted by the inflamed chancre, nothing can be detected, which might distinguish it from the simple or diphtheritic ones, with the sole exception of a larger number of corpuscles of pus, closer enveloping the destroyed elements of tissue. The masses destroyed by the gangreneous chancre consists likewise of tissues, which, however, appear yet in their natural connection, having been thrown off together; the cutis with her papillary body, the meshy sub-mucous cellular tissue, composed of riddle bundles of fibres, the vessels even, and glandules of the skin are found almost in their natural form and aggregation, the whole object appearing the clearer, the less the number of interspersed corpuscles of pus. The substances, however, found on the bottom and in the matter secreted of chancres non-gangrenous, are always dissolved into their elementary parts, no complex structure is any more discernible. The essential difference between the two large classes of chancres consists, therefore, in this: In gangrene the parts mortify en masse, and far beyond the primary limits of infection; in the non-gangrenous chancre, only an exfoliation of tissue, progressing by layers, takes place. In this

circumstance another peculiarity of the gangrenous chancre finds its explanation, to-wit: the dark color originating from blood extravasated and metamorphosed, as also the putrid odor, which is developed by the decay of the mortified substances. Gangrene is accordingly a process entirely different from syphilitic ulceration, on which it may supervene as the result of much increased local inflammation. Advancing beyond the boundaries of the infection, it is attended by the most important loss of substance, which, however, prevents the absorption of the syphilitic virus in the same manner, as cauteries, artistically employed. It is peculiar only to the gangrenous chancre, never to be followed by secondary syphilis. The healing of the ulcer progresses with great rapidity after the demarkation and detachment of the destroyed masses, there is never left a specific induration nor a chronic intumescence of the corresponding lymphatic glands. Also the inflammatory chancre seldom has secondary syphilis in attendance, because the violent pain, by which it is accompanied, compels the patient to seek medical counsel in time, perhaps also for this reason, that a violent inflammatory reaction eliminates by supuration the infected part.

The Hunterian chancre, sufficiently known by its specific induration always supervenes at a later period, never before the fifth day of the appearance of the primitive chancre. It is always found accompanied by a moderate indolent swelling of the inguinal glands, and invariably followed by secondary syphilis, not unfrequently, even where a thorough anti-syphilitic treatment has been instituted. These facts, per se, seem to indicate that the indurated chancre is not solely a local affection. The induration on the contrary is the first manifestation of the general infection of the system, which has already taken place, and is soon to show itself on a more extensive scale. This theory is confirmed by the examination of the indurated bottom of the ulcer. An incision carried through the indurated part, shows a homogenous lard-like surface. On pressure a turbid and granular jelly protrudes, which, put under the microscope, appears to consist of drops of oil and a number of irregularly formed flakes and granules of very different size and transparency, in addition, a small number of nuclei and spindle-shaped cells. Ether, superadded, does not dissolve much, acetic acid, however, renders the whole object somewhat more transparent. A solution of iodine gives to a portion of the amorphous granular masses that red color, proving according to Meckel, the presence of lardaceous matter. Hence, it will follow, that the exudation, which forms the specific induration of the chancre, differs from matter exuded by common inflammation. The presence of nuclei and cells seems to favor the organization of the matter

exuded into cellular tissue, an assumption, proven to be correct by the observation, that every specific induration, if persisting during some time, is transformed into a fibrous cicatrix. There seems, however, to be a want of tendency to purulent metamorphosis, as we are taught by experience, that the appearance of the specific induration retards or arrests the process of ulceration. If these observations plead on the one side, for the specific nature of the induration, they render it probable on the other, that its anatomical character is identical to other exudations, formed under the influence of constitutional syphilis in various other organs. The author had repeatedly the opportunity of examining into the contents of gummata, which, as is generally known, sometimes develop themselves by syphilitic inflammation in the cellular tissue, more frequently under the periosteum. Their microscopical and chemical properties were always the same as those of the indurated chancre. We are led therefore, to the conclusion, that the specific induration is a manifestation of constitutional syphilis, that it is unjustifiable, to class the indurated chancre among the primary ulcers. Induration often supersedes the simple and diphtheritic chancre, rarely the inflammatory or gangrenous ones. It is not the messenger of Lues coming, but Lues herself present.

Ricord's chancres phagedeniques serpigineux and terebrant are not sufficiently marked to be classed as different forms. The former fell under observation only as a secondary affection, while the latter is nothing but a common serpiginous chancre, spreading more into depth, than circumference, in consequence of its accidental implantation on the lax and œdematous cellular tissue of the margin of the prepuce.

According to V. Baerensprung, the presence of mortified tissue in the matter secreted by the chancre during its progressive stage may be used as a valuable diagnostical means. For, though the separation of necrotic substance and the intermixture with the different secretions is no process peculiar to syphilis, yet it is not frequently met with in affections apt to be confounded with chancre. These are herpes vulvæ and preputic, the catarrhal erosions and inflammatory ulcers of the genitals.

Herpes does not seldom form on the male prepuce, most frequently, however on the female organs of generation. True on the external surface of the prepuce and labia majora it appears under the form of vesicles, grouped on a reddened ground, forming eschars after some days, and being speedily cured. On the inner surface of the prepuce, however, on the mucous lining of the inner labia and vestibule of the vagina no such vesicles are formed, because their tender epithelial covering is not resistant enough to be separated as an unbroken membrane from its corium. In these places, therefore, herpes shows itself as a group

of little round, whitish, aphthæ-like erosions, which sometimes becoming confluent, cover a large extent of surface, assume an irregular form so as to simulate the existence of a chancre, especially when the neighboring parts get inflamed and turgid. On minute examination, however, the corium is found entirely intact, being deprived only of its epidermic covering. The superficial white layer is composed exclusively of corpuscles of pus, which adhere to the denuded papillary body.

The large and quite irregular landscape-like erosions, so frequently attending blennorrhœic secretion and balanitis, present the same anatomical character. Those portions of the mucous membrane, stripped of their epithelial covering, become the source of a more or less abundant secretion of pus. The cells of pus, next to the corium, are supplanted again and again, by others, until epithelial cells at last begin to form in their place.

From these frequent affections of a catarrhal nature others are to be distinguished, being the product of plastic inflammation. Little ulcers of oval form on a highly inflamed base, their bottom covered by a closely adhering white membrane, which can be detached as a whole, fall not unfrequently under observation near the posterior commissure and on the caruncles at the entrance of the vagina. If left alone, these ulcers do not increase in size, but heal in a few days without leaving a specific induration. They arise from trifling mechanical injuries of the mucous membrane, rents, etc., if these get inflamed by irritating influences, such as blennorrhœic secretions or frequently repeated coition. That firmly adhering membrane consists of plastic matter exuded, which on microscopical examination shows that granular and fibrous structure, peculiar to coagulated fibrine, interspersed by many corpuscles of pus, without the presence, however, of necrotic elements of tissue.—[*Cincinnati Lancet*.

Employment of Sugar in the Diseases of Infants, and its utility in Intestinal Catarrh. By Drs. BEHREND and SIEBER, of Berlin.

IN the *Presse Medical Belge* is an interesting paper on the use of sugar in the diseases of infants, a portion of which we abstract. The authors refer to the writings of Sala, Pellatier, Hoffman, and many others, in support of the utility of the remedy.

The ordinary cane sugar is employed with our general dietetics in consequence of its agreeable taste. During the last century many of the older authors spoke in high terms of the therapeutic action of sugar, and recognized in it many properties of utility in the treatment of divers maladies. In later times and after the prosecution of many philosophical researches, and the presentation of their results, we are now taught that the opinions of the old physicians were well founded and rational.

We now know that, by the reactions of this agent with the liquids of the stomach and intestines, it is transformed into lactic and butyric acids direct. To the researches of Lehmann we are mainly indebted for the information we now possess, and are made cognizant of interesting and remarkable changes and effects on the animal economy from its agency and its mutative action on medicaments.

Without further prelude we will now cite two cases which came under our treatment some six years since, and which will serve to show what may rationally be expected from it as a therapeutic agent.

During the epidemic which prevailed in this country in 1851, and which manifested so much activity in the derangement of the intestinal functions, both in adult and in infant life—and attended with high febrile action—we had many opportunities for observing the salutary effects of the remedy.

A child three years of age, of a scrofulous habit, was seriously attacked with the prevailing disease. An intense fever declared itself at the outset, which was soon followed by copious diarrhoea, attended with violent colic pains, and soon afterwards by excessive abdominal tenderness. An acute inflammation was manifest, which was combated with an antiphlogistic course, to which it soon yielded. The diarrhoea persisted, with great irritability of the stomach, and the expulsion of a light flocculent matter; a nutrient treatment was adopted to support the sinking patient, but all ingesta was rejected instantly, and it was easy to foresee that all the usual remedies in such cases would be applied in vain. The efforts at vomiting continued; the stools were mixed with mucous filaments slightly colored with bile, and at times streaked with blood; their odour was acid, but not strong.

The child was now put upon sugar and water, which it ate with a ravenousness and voracity most remarkable. This peculiarity, and the apparent assurance it gave of adaptability in this case of intestinal catarrh, determined us, for the first time, to employ this method of treatment. To effect its exhibition in a convenient manner it was given in the form of pulv. blanc. sac., one half oz. slightly moistened with water, each hour. This treatment was continued four hours, and was tolerated. At night the same treatment was continued, the patient to have sweetened water whenever disposed to drink. No other medication was employed. On the fifth day the abdominal pains had ceased most completely; the diarrhoea still continued, but the stools were less copious and frequent, and contained fecal matters. The treatment was continued, with the addition of light nutrient fluids, which we now found feasible, and, as the patient recovered, beef tea was given. The treatment, for nine days,

consisted of sugar in a humid state, and to its effects we are disposed to consider the cure attributable, and not to other medication.

Soon following the above case, another child, aged four years, was presented with the same disease. It had become very emaciated by the wasting diarrhœa, and, when first presented, was writhing with the violent colic pains attendant on the disease. The patient was placed upon the same treatment in all respects as the former, and at the end of five days the stomach would tolerate other light nutriment, followed by beef tea, as in the first case. In three weeks the cure was perfect. During the last two weeks the quantity of sugar administered was diminished daily.

These two cases go far to establish the value of the remedy as a therapeutic agent, and when we regard the opinions of the older writers upon this subject, it seems evident that it has long been a useful but neglected adjunct in the treatment of peculiar diseased conditions.—[*Pacific Med. and Surg. Journal.*]

Secale Cornutum in Asthenopia.

Prof. Von. Willebrand states that he has employed "secale cornutum in several diseases of the eye in which I believe the evil to be removable by recalling a brisk contractility in the walls of the bloodvessels, or in other structures furnished with unstripped muscular fibres. This remedy has proven of the greatest advantage in disorders of the adjusting power of the eye . . .

"A woman, aged 28, of a fine, healthy appearance, who had always enjoyed good health, and who had gone through two favorable confinements, the last of them four years before, complained of great deterioration of sight, so that she could not occupy herself for longer than some five minutes at a time in sewing or reading, when the letters seemed to mix together and pain arose in the eyes, spreading to the brow and temples. Were they, on the contrary, wholly unemployed, she felt no pain in the eyes, and found her power of vision pretty much as it had always been. The patient thought she had remarked this irritability of the eyes to have come gradually on for two years, contemporaneous with diminished menstruation. No morbid change could be detected about the eyes. The pupils were somewhat contracted, but quite movable. The patient could distinguish near and distinct objects as formerly. Her visual distance was normal. The eyeballs felt something firmer than common. There was no doubt that the disease consisted in a disturbance of the adjusting power; it appeared to me certain also that a chronic congestive state of the eyes was present, and that this was probably the cause of the disturbance in the adjusting power

of the eye. The cause presented nothing further worthy of note, except that the bowels were slow.

"I ordered ten grains of *secale cornutum* with carbonate of magnesia, four times a day. I saw the patient again in four days; she was overjoyed at the improvement which had taken place. She could now read and sew with ease. This state lasted four months, after which the patient observed that the disease returned. The same means was again employed, and with equal benefit. Since then she has seldom required to have recourse to it, so long as she follows the advice given her, to use her eyes sparingly in reading and sewing.

"More recently, I have in cases of disturbance of the adjusting power, always used the same means, and with constant good effect. The complaint returns, indeed, readily in those cases, where the cause (for example, straining of the sight upon minute objects, especially in a bad light) cannot be avoided, yet it is removed by the same means. The young people of the ladies' school of this place, who, in consequence of strained occupation in a bent position, and of ill-arranged illumination, are exposed to the above-mentioned unfavorable circumstances for sight, have afforded me several examples of considerable derangement of the adjusting power, which all, at least for a time, have yielded to this means. I am thereby firmly convinced, that in disturbed power of adjustment the treatment by means of convex glasses is greatly aided by internal medicine. The dose of the *secale cornutum* is to be varied according to the age of the patient. Lately, I have ordered only five grains for a dose to an adult, mostly in combination with carbonate of magnesia, sometimes in chlorotic cases with iron."—[*Archiv. für Ophthalmologie*, and *Med. Times and Gaz.*

On the Treatment of Neuralgia by Electricity. By J. ALTHAUS, M. D.

FROM the time when Sarlandière and Magendie first made known their observations on the therapeutical use of electro-puncture, galvanism has been frequently and in various ways administered to relieve such neuralgic pains as defy other therapeutical proceedings. The practice of electro-puncture being connected with more or less annoying inconveniences, viz., in many instances very violent pain during the operation, and afterwards inflammation and supuration in those tissues into which the needles have been thrust, other modes of applying galvanism have been naturally resorted to. Duchenne recommended to produce a strong revulsion by practicing faradisation of the skin, by means of metallic brushes conveying a very powerful electro-magnetic current to the painful points;

but the pain produced by this proceeding is, according to Duchenne himself, atrocious, and in a certain number of cases the operation has not been accompanied with any success. Another, and in my opinion, the better way, is to send an induced current, of middling intensity, for a certain time through the affected nerve, by means of moistened conductors; one pole being placed at a point where the trunk of the nerve may be reached nearest to the nervous centres, the other one on any of the terminal branches of the nerve. This mode of electro-magnetic treatment, which is derived from the physiological fact that by such a proceeding any nerve in its normal state may be made more or less insensible, I have found the least inconvenient and the most efficacious for some forms of neuralgia. In fact, the pain produced by it is very insignificant, and hardly worth mentioning, when compared to the often excruciating neuralgic pain against which the proceeding is instituted. On the other hand, I have seen the method alluded to answering in cases where both electro-puncture and faradisation of the skin had been resorted to with little or no success.—[*Med. Times and Gaz.*

The Vital Point.

It is well known that M. Flourens has long since designated a particular point in the cerebral mass as the seat of that power which presides over the respiratory and circulatory systems. According to his statement, the destruction of this point invariably occasions an instantaneous suspension both of cardiac and pulmonary movement, and the immediate death of the animal without pain or convulsions. This has been esteemed by many as the most positive evidence of the truth of those doctrines, which, since the days of Hippocrates himself, have found a multitude of champions assuming the name of vitalists, and asserting the existence of a specific force essential to life,—presiding over the various component organs, and preserving the animal mechanism in its normal state of equilibrium. Believing that the arguments of their more material opponents, who made the scalpel the test of everything, were fully answered by the researches of Flourens, they exhumed the memories of Von Helmont, Hoffman and Stahl, honored them with orations, and proclaimed them the only lights which had illuminated the medical world. Though affecting for years a sovereign contempt for that system of vivisection, which has really accomplished so much of practical importance both for Physiology and Therapeutics, they became at once its warmest friends and most zealous advocates. Though bound only by a sort of traditional regard to the abstractions of an effete theory, one stroke of the knife awakened them to new life and energy; and though ridiculed as laggards

in the great march of professional improvement, they suddenly found themselves transformed, as they supposed, into pioneers and prophets.

More recent and accurate researches, however, are about to effect another revolution in Medicine, for Séquard, following the lead of the learned and laborious Bernard, has overturned the whole theory of Flourens, and demonstrated that the "Vital Point" is no vital point at all. The following are his conclusions, as first published in the *Journal de la Physiologie*.

1. Death is not always the immediate result of ablation of the vital point.

2. When death takes place suddenly after this ablation, it is due in a great measure to the sudden arrest of the movements of the heart resulting from irritation of the spinal marrow.

3. Irritation of the surrounding parts produces sometimes the arrest or enfeeblement of the heart's action, just as ablation of the point itself.

4. After dividing the pneumogastric nerve, the destruction of the vital point never occasions a sudden suspension of cardiac movement.

5. It is not because of the ablation of the vital point that respiration sometimes ceases, but rather on account of the irritation of the spinal marrow.

6. Irritation of the adjacent parts sometimes arrests respiration even when the "vital point" is not wounded.

7. Respiration and circulation can be performed with force and regularity for a number of days after ablation of the "vital point," from which it is evident that this part of the cerebral mass is neither the source of vital power, nor the main spring of the respiratory apparatus.

8. Voluntary movements, and the sensorial functions, are often uninterrupted, even after the destruction of the "vital point."

9. The "vital point" appears not to be essential to life.

[*Medical Journal of North Carolina.*]

On the Use of Soluble Glass.

SOLUBLE GLASS is prepared by fusing a mixture of 15 parts of quartz, ten of potash or 9 of soda, and 1 of charcoal. In its dry state it is clear, colorless, hard, and not easily fusible. Gradually added, in the form of fine powder, to boiling water, it is dissolved, after some time, in 5 or 6 times its weight of water, to a syrupy liquid. The same solution has been obtained by dissolving quartz directly in a strong solution of caustic soda under a pressure of 7 or 8 atmospheres.

Common chalk, previously soaked in water, and afterwards allowed to remain in the solution for a few days, has acquired such a hardness that it cannot be scratched with the finger nail, and may be readily polished. This increase of hardness penetrates into the interior of the piece in proportion with the time allowed for reaction, and a mass is thus obtained quite unsusceptible to the influence of either water or carbonic acid. This quality of the soluble glass will secure it a vast application for the hardening and preservation of porous and decaying building stones, and walls erected from such material. The great painter, Kaulbach, has the merit to have called forth a new period in fresco painting, by the use of the soluble glass for the fastening of his paintings upon the plaster walls. He paints with ordinary water colors, or mixes them with a weak solution of the glass, and the wall, after the finishing of the painting, is saturated with the glass solution by means of a fine syringe.

Soluble glass may be used for the painting and preservation of metals, stone, wood, paper, and a number of fabrics. Wooden floors are thus made not only very hard and durable, but their absorption of oil, ink, etc., is effectually prevented, and they are preserved against all attacks of the wood-worm. Wood, paper, etc., are rendered uninflamable, particularly if the glass solution has been mixed with chalk, in which case the glass coat is, externally, hardly altered, while underneath a kind of destructive distillation is going on; but if the coating has been of pure, soluble glass, this is apt to become fused by the heat and run off, thus exposing the wood or paper partly to the fire. Articles made of iron, clay, and many other metals and earth, may be painted and glossed; they are first painted with the glass, and after this coating has been allowed to dry, a second coating, consisting of the paint with a weak solution, is applied, and afterwards coatings of a concentrated warm solution are laid on, until the articles have attained the desired gloss.

For druggists, it is important to know that soluble glass with zinc, white or with *blanc fix* (precipitated sulphate of baryta), is very available for labelling glass bottles, and that such labels are indestructible, either by spirits, oils or acids. Varnished labels cannot be covered with this glass, as it renders them liable to crack. But paper boxes soaked in a warm solution of soluble glass, and after complete drying, painted with a suitable color ground in the solution, are admirably adapted for the preservation of herbs, roots, and most substances requiring to be kept excluded from the changes of the air.

A "glass paper" has also been proposed as a substitute for waxed paper, for the purpose of covering ointments and cerates and wrapping up plasters; it is more elegant and much cheaper than waxed paper. Professor Artus uses moderately heavy

writing paper, and puts the solution of soluble glass of 1.12 or 1.15 spec. grav. on with a brush, renewing the application after the first one has become perfectly dry. A stronger solution produces a more glass-like covering, but such paper cannot be rolled without cracking.

For domestic use, soluble glass has been recommended as a substitute for soap; and woolen, silk, cotton, linen and leather fabrics (kid gloves, &c.), are cleansed by it much better than by soap; it is cheaper and goes further than the latter. On washing with the glass, hard or soft water may be used, cold or lukewarm. Only very dirty and starched cotton or linen clothes must afterwards be rinsed in hot water. Soluble glass lessens the work and saves fuel, it preserves all colors, with probably the single exception of *bleu de France*, which is likewise destroyed by soap. For 100 lbs. of water, but 1 lb. of soluble glass is necessary in all cases, save for the washing of raw wool, which may sometimes require as much as 4 lbs. It has been introduced in a number of the largest factories in Europe.

[*Druggists' Circular.*

On the Value of Iodide of Iron.

THE iodide of iron is comparatively a new preparation, as it was only in 1834 that Dupasquier, of Lyons, distinguished no less as a chemist than as a physician, made some very interesting trials of this preparation in the treatment of pulmonary phthisis, and proposed a new method of preparing it. He then showed that he had performed several cures upon patients affected with crude pulmonary tubercles, and had considerably relieved others whose tubercles had begun to soften. In the hands of others, however, the use of iodine of iron has not been attended with uniformly good results probably in consequence of the uncertain nature of the preparation; sometimes too much of the iron was received into the stomach and besides this, there was occasionally an excess of iodine present, which was converted in the system into hydriodic acid. In recent times, M. Gille has proposed to administer the iodine in the form of sugar-plums, and in the formula recommended, it is said that the proportions of the iron and the iodine are preserved unaltered. M. Boinet records two cases of abscess of a very aggravated character cured by the internal use of iodide of iron, together with ioduretted injections into the sac of the abscess. The first case was that of a child, nine years old, in whom there was caries of the fourth, fifth, and sixth dorsal vertebræ; and there were two abscesses, one in the back, on a level with the diseased vertebræ, and the other, also on the right side, in the iliac region. The disease

had continued for several months without any amelioration, when, on the 8th of January, 1857, the abscess in the iliac fossa was punctured and injected with tincture of iodine; the patient was put upon good diet, and cod-liver oil was given internally, together with sugar-plums (*dragées*) of the iodide of iron. On the 17th of January both the abscesses were punctured and injected at the same time. This operation was subsequently repeated on several occasions, and under this treatment the fistulous openings caused by the punctures gradually dried up, and at last became completely cicatrized. The child improved in all respects, and under the use of the iodide of iron in sugar-plums, and the influence of strengthening food, became strong and well. The second case was that of a man aged sixty-three, under the care of M. Malgaigne, at the Hôpital St. Louis, who had a large abscess below the crural ligament. M. Boinet punctured this abscess, which discharged more than three pints of a grumous pus. The opening was then injected with tincture of iodine; the abscess remained fistulous for some time, and allowed a small quantity of pus to flow out every day, but it soon closed. The iodide of iron was administered internally, and the patient was put upon a strengthening diet; and six weeks after the operation and the internal use of the iodide, the patient left the hospital quite well.

In a lecture on chlorosis by M. Gendrin, the lecturer recommends iron and manganese as the best remedies in this disease, and passes in review the different preparations of iron which are employed in medicine. One of the most useful preparations in cases of chlorosis complicated with scrofula, or only with a lymphatic temperament, is the iodide of iron. But, unfortunately, this salt is very easily decomposed, and in order to employ the syrup with advantage, it should be prepared at the very time when it is to be taken. The invention of M. Gille fulfils the object of practitioners in recommending this medicine, for he envelops the iodide with a layer of sugar, which altogether prevents the access of air. These sugar-plums have been preserved more than two years without any alteration of the iodide. M. Gendrin speaks strongly in favour of this preparation, the value of which consists not only in the indefinite preservation of the ferruginous salt, but also because it renders its administration easy and agreeable. The iodide of iron has the advantage over other preparations, of being well borne by the patient, an advantage which it undoubtedly owes to its great solubility.

M. Rostan, in a lecture on chlorosis, says that the iodide of iron possesses, in the promptitude of its curative action, a very manifest advantage over the other ferruginous compounds; the syrup of the iodide has not been used in medicine so much as it would have been if it had more stability; but the preparation of

M. Gille renders the administration of this salt as easy as that of the oxide or the carbonate.

In phthisis, the iodide of iron has been found to act very beneficially, and its importance in this disease will be increased when it is preserved chemically pure, and given in suitable doses. Louis, Andral, and Bricheteau, have all used with success, the syrup of the iodide of iron in pulmonary tubercle; and more lately Dr. Belouino has published some cures of this disease effected by the administration of the sugar-plums of M. Gille. "Recent observations," says Dr. Belouino, "have assigned to iodide of iron an important place among therapeutic agents, and it may be boldly placed among the best medicines which we possess. Formerly it was unworthy of confidence, because it was badly preserved and was easily decomposed, and consequently did not give always identical results. Physicians, in consequence, decline to make use of it. At present the iodide of iron—thanks to the laborious researches of M. Gille—is preserved in a state of perfect purity. I have had occasion to employ very often the preparations of this gentleman, and I have attained experimentally the conviction that the iodide of iron is an excellent medicine in cases of anæmia, scrofula, rachitis, chlorosis, and often in certain cases of pulmonary phthisis in which the organism requires to be strongly fortified." Dr. Belouino records two cases of phthisis which were cured by the administration of iodide of iron; one was the case of a lady, aged twenty-four; the other that of a child, aged five; in both, the existence of tubercular disease was ascertained, but it disappeared under the use of the iodide.—[*Journal des Cliniques des Hôpitaux de Paris*, and *Brit. and Foreign Med. Chir. Rev.*

Different Formula adopted in the Practice of the Medical Profession in Lyons.

THE 'Gazette' of Lyons has published a series of preparations recommended by physicians of repute in that city, and which are said to have succeeded in certain well-marked cases. The following are some of these preparations:

Powder for the Convulsive Attacks of Hooping-Cough.—Bicarbonate of soda, seventy-five centigrammes; cochineal powder, seventy-five centigrammes; belladonna powder, fifteen centigrammes; and sugar in powder, eight grammes. Mix and divide into fifteen doses; two or three to be taken every day during the whole duration of the hooping-cough.

Doses for Intermittent or Remittent Spring Fevers.—Seignette salt, sixteen grammes; quina in powder, sixteen grammes; to be taken in a glass of warm water every morning, for three days

consecutively. It is remarkable that, in this formula, the purgative does not interfere with the antiperiodic effect.

Pills for Palpitation of the Heart, with Hypertrophy in an Early Stage.—Sugar of lead, two grammes; extract of digitalis, one gramme. Mix, and divide into twenty pills; one to be taken morning and evening, and the dose may be afterwards doubled.

Scalative Liniment for Eczema.—Oil of sweet almonds, ten grammes; glycerine, ten grammes; oxide of zinc, five grammes. To be employed in frictions when the acuteness of the eruption is over, or after the inflammation is calmed down, and the scales have been removed by meal poultices. In chronic eczema, two to four grammes of sublimed sulphur may be added to the preceding liniment. This formula is particularly adapted for the eczema of the anus and the chaps of the breast.

Remedy for Habitual Headache.—Dr. Teissier, of Lyons, recommends fifty centigrammes of menyanthes to be infused for half an hour in a cup of boiling water, adding a tablespoonful of syrup of valerian. This quantity to be taken two or three times a-day. Dr. Teissier has often ascertained the good effects of this very simple remedy, which had already been recommended by Tissot and Sainte-Marie, and which has improperly fallen completely into oblivion.

Pills for Acute Articular Rheumatism.—Dr. Bouchet gives the following pills, in conjunction with drinks containing nitre:—Extract of guaiacum, one gramme; extract of aconite, fifty centigrammes; sublimed calomel, ten centigrammes. Mix, and divide into ten pills, to be taken during the day, one every two hours. Dr. Bouchet has almost always seen the symptoms mend under this treatment from the fourth to the sixth day, movement becomes possible, and the disease is terminated from the twelfth to the fifteenth day.—[*Bul. Gen. de Ther.*, and *Ib.*

Experiments with Atropia and Epilepsy. By DR. MAX MARESCH.

THE great number of epileptic cases introduced, in complication with insanity, into lunatic asylums, has led to numerous experiments with various remedies, but hitherto without very favorable results. Dr. Maresch, who is the physician to the Imperial Lunatic Asylum in Vienna, has employed atropia in epilepsy in the case of some of the lunatic patients in that establishment. The preparation employed was pure atropia from Merk's laboratory in Darmstadt, dissolved in the proportion of 1 grain of atropia to 500 drops of spirit, and the dose was 5, 10, and 12 drops every day in the morning or evening, and continued for a month. The cases treated were very severe, and complicated with maniacal and suicidal insanity, and the results

therefore were not uniformly favorable. In fact, the writer states that out of eight cases which were treated by atropia, there were only three in which the epileptic convulsions disappeared. But he remarks, that in the asylum to which he is attached, only those cases of epilepsy are received which are complicated with mental derangement, and that he has been unable to extend his experiments to cases of pure epilepsy of recent origin.

We understand that Dr. Sieveking has recently tried the effects of a solution of sulphate of atropia upon an epileptic patient as well as upon himself. In his own case, a hundredth part of a grain produced brief vertigo, followed by dryness of the throat of several hours' duration; vision not being affected. On the following day he suffered from nervous depression, which was the main symptom very urgently complained of by the epileptic patient, who took one hundredth part of a grain on three successive days.—[*Zeitschrift der k. k. Gesellschaft. der Aertze zu Wien, and Ib.*

On the Treatment of Obstinate Intermittent Fevers by Cold Water, and by the adoption of the most Simple and Ready Means. By DR. DAUVERGNE, Physician of the Hospital of Manosque.

DR. DAUVERGNE, remarking that some writers believed in the possibility of curing obstinate intermittent fevers by sea-baths—namely by the specific chemical powers of this kind of water—advances his own opinion, that the action was due only to the impression of cold produced, and to the direction given to the organic movements. Twenty-seven cases have been collected by Dr. Dauvergne in proof of the efficacy of water in the cure of these fevers; 26 of them attacked with intermittent fevers of all kinds, but especially obstinate and chronic, were cured with surprising certainty and rapidity. The only case which failed was that of a soldier, who became puffy and cedematous after a douche; and as the weather was cold, the sulphate of quinine was given, and effected a cure. The cases of treatment by water are recorded by Dr. Dauvergne, who seems to have adopted a plan somewhat similar to those pursued in the hydropathic establishments. The strength of the patient was supported by generous diet.

[The bloated and cedematous condition of one of the patients thus treated, and his subsequent cure by sulphate of quinine, seems to prove that the water-treatment cannot be adopted without great risk; and although some of the other cases may have been improved, in a hot region like Africa, by the application of water to the surface, there is no proof whatever that

the same treatment can be safely adopted in other countries, or that it can supersede quinine in the management of intermittent fevers. The exhibition of sulphate of quinine is attended with no danger, and this cannot be said of the water-treatment.]

[*Bul. Gén. de Thérapeutique*, and *Ib.*

On Glycerine as a Local Application in Pseudo-Membranous Croup.

By D. MAYER.

DR. MAYER was induced to employ glycerine in pseudo-membranous croup, from observing the relief obtained by its being snuffed up or injected into the nostrils in some cases of ozæna, in which hard concretions form in the nasal fossæ. Glycerine is remarkable for its extraordinary power of adhesion, extension, and penetration, especially when applied to a mucous membrane, and therefore it is not necessary to apply it to the laryngeal surface by direct application, for its mere apposition in any quantity to the rima glottidis, or the parts nearly adjacent, is followed by immediate entrance into the cavity, without provoking to any extent the spasm and violent convulsive cough which are always caused by the forcible introduction of a probe or sponge into the orifice. In pseudo-membranous croup the larynx is lined by an excretion somewhat analogous to that thrown out in ozæna, and it seems probable that the introduction of the glycerine into the laryngeal cavity may loosen the membrane and facilitate its expulsion by coughing or vomiting. Dr. Mayer has employed the glycerine in severe cases in conjunction with other treatment, and indeed he does not propose this remedy as a substitute for, but as an addition to, other means; and he has found the application to be followed by a manifest improvement of the cough, and relief of the dyspnœa and general distress. The article employed was Price's Candle Company's glycerine, and it was applied by pressing down and drawing forward the tongue with the finger, and squeezing out the contents of a long and thick camel's-hair brush dipped in the liquid over the chink of the glottis, or as near it as possible, concluding the operation by swabbing the whole throat. Dr. Mayer thinks that this mode of treatment is applicable to several other diseased states of the respiratory passages.—[*American Jour. of the Med. Sciences.*

Caustic Glycerine for Lupus. (Bulletin Général de Thérapeutique).—The formula proposed by Dr. Hébra, of Vienna, consists of iodine, iodide of potassium, and glycerine. This topical application is laid on every two days with a camel hair-brush; it causes pain for more than two hours, but it has the great advantage of curing the lupus without producing unsightly scars.—[*Am. Jr. Med. Sci.*

EDITORIAL AND MISCELLANEOUS.

THE FIFTEENTH VOLUME OF THE NEW SERIES OF THE SOUTHERN MEDICAL AND SURGICAL JOURNAL.—A distinguished explorer relates the story of a Greenlander, who was filled with pity and commiseration, for the “poor Europeans,” who were forced to drag out their existence without ever knowing the luxury of fish oil and blubber, as a prime article of food. “How do you live,” says he, “without the fat of seals, and a measure or two of oil every day?” Surrounded, as we are, by periodical medical literature, breathing the stimulating atmosphere of medical progress, living in the midst of our fifty or sixty highly prized exchanges, domestic and foreign, greeting their coming, devouring their contents, and imbibing, both improvement and pleasurable excitement from their well-filled pages, we too, rejoice in a feast which many would dislike, and feel inclined to pity any member of our profession, who does not know the pleasure and advantage, of even, a single medical journal. Dull and stationary must his life be, and feeble the impulses of that physician, who, in the present age, can content himself to live in profound ignorance of the progress and improvement, everywhere making rapid strides, in his profession. That which was, yesterday, the crowning foam on the very front wave of scientific advancement, is often, today, found far behind in the career of improvement—so rapidly do other and stronger waves rush on, to overwhelm, or to surpass it. There is but little that is stationary in the present epoch, and still less in the science of medicine. “Progress” and “change” seem stamped on every page of medical literature, and the books themselves, appear to us but the shifting scenes of an ever-changing, ever-deepening drama.

Let us take any one department of medical knowledge; let us buy the best, or perhaps all the books written upon it; devote months, or even years to its study in these books, and ere we have waded through the heavy volume, a new edition informs us—and most truly—that the advancement of the age demands a complete revision, or reconstruction of this entire branch of knowledge. We are bewildered, we are discouraged: we almost sacrilegiously wish we could clog the wheels of a progress, which thus mocks and disheartens, which depreciates the value of our hard-earned knowledge, and writes, “passing away” upon all our attainments, even when they have scarcely come fully into our possession.

Do we ask, where our author obtains all the additional matter for his new edition—from other books? This cannot be: none others have been published. Has he made farther investigations? No! he has not had time, by his own single-handed efforts, thus to double the size of

his records. Who, then, has done the work in so short a time, and through what channel has it come to him? A little reflection will soon satisfy us on both these points: the whole world may have been stimulated, at once, to engage in and complete the work, and the entire results of their united labors have found a place of record, and a medium of publication, in the *medical journals of the day*.

Books, then, can only give the *results* of scientific investigations, for they are of slow and laborious preparation, and tardy in coming into our hands; but the journals supply us immediately and constantly, and faithfully, with the *processes* by which these results have been accomplished. They are the archives in which all the treasures of medical lore are first laid up, and they are the storehouses whence this knowledge is transferred, to make up the more complete and systematic science recorded in books. Without medical journals, then, we can gain medical knowledge, only when it has become comparatively stale—its freshness has, in most cases, been there exhaled. Medical journals are to medical books, what newspapers are to works of human history, and to works of political economy—they, each, have their own necessary use and function in supplying the sum total of our knowledge. As the politician, or the man of business, who neglects the record of passing events, found in the current history supplied by daily journals, would necessarily fail to battle successfully in the arena of life—so, the practitioner of medicine, who neglects the information and instructive precepts of the medical journals, soon finds himself far in the rear, in many important departments, however diligently he may read, even the latest works.

Of the value of medical journals we are, at present, unwilling to say more; our wonder is, not that so many are supported, but that each member of the profession does not subscribe for and read, not only one, but at least two, viz., 1st, one monthly journal, to supply him with information for the daily exigencies and necessities of practice; and, 2ndly, one quarterly or bi-monthly review, to furnish information of a more general character, to direct his reading, and to save the necessity of much laborious book-reading, by the comprehensive synopses of medical works, which they present. Books now exist in such profusion, that the task is, not so much, to find something to read, but rather to know what works we can safely exclude. The Reviews supply this important information, and well deserve the attention of every one who would advantageously engage in the pursuit of medical knowledge. In our own country are to be found two of the best medical Reviews, which the world affords, viz., The American Journal of Medical Sciences, and the North American Medico-Chirurgical Review, both published in Philadelphia.

The present number initiates the fifteenth volume of the new series of the Southern Medical and Surgical Journal; during the past year, we have endeavoured to discharge, faithfully, the responsibility imposed upon us, as editors, by gathering into our *seventy-two monthly pages*, as much valuable information as they would contain, that the work might be useful and suggestive to the practitioner, as far as possible, keeping him posted up with the rapid advancement in our science; and we feel assured, that there is yet lying veiled before us, though near at hand, much golden treasure to gild the records of the coming year. We shall endeavor still, to keep the Southern Medical and Surgical Journal, the true exponent of Southern Medicine, and the medium of communication for sound medical doctrine, from every part of the scientific world. We again call on those who have so long and so well sustained it, by both pecuniary and scientific aid, to renew their good wishes, and to enter with us, heartily into the work. With an experienced and liberal publisher, a corps of able contributors, and editors, who are at least, devoted and in earnest, we may hope still to find the journal valuable and interesting to all who may become its readers.

HENRY F. CAMPBELL,
ROBERT CAMPBELL.

To SUBSCRIBERS.—With the very encouraging list of payments, on the cover, of the present number, we feel far more inclined to thank, than to dun—to continue the administration of “Honey” in preference to “Vinegar.” Let us then gratify our paying subscribers, by assuring them, that it is to their promptness that our faithful publisher owed his ability to meet his pecuniary engagements during the last year. On taking charge of the journal at the beginning of fourteenth volume, Mr. Morris did not purchase the accounts due the office; he, therefore, was cut off from the assistance which the payment of these “back debts,” (a great many of which have been paid,) would have afforded him, and had to depend entirely upon the subscription of the current year. We have made but a single appeal, and that a very good natured one, and we are satisfied with its results. The price of the journal is very moderate, but its payment is very important to the publisher. As there are still many in arrears, we now respectfully request that they transmit the amount before the distribution of our February issue.

As the journal has been sent, for some time, to the address of subscribers who have removed, and, in some instances, to the address of others who have died, thereby causing much loss to the publisher, he has concluded to send the present number to the entire list, as usual, but to

withhold the February number, from those who have not paid, until he has some response, either an intimation to continue, or the payment for the past year. This course has become necessary, on account of the large number of removals which have taken place among our subscribers. It will, doubtless, prove satisfactory to all concerned. We, again, thank those who have responded promptly, and can assure all, that the journal will improve in size, style, and value, in proportion to the encouragement which the publisher receives at the hand of the subscribers.

BINDING OF THE FOURTEENTH VOLUME.—We scarcely ever take up an old bound volume of a medical journal, but that we are loth to put it down, so filled do we find it with the most interesting and valuable matter. Indeed, medical journals when indexed carefully and *bound*, make the most valuable of medical books. They contain precepts upon every department of the science and practical instruction, which applies to every variety of case. It is proverbial, that systematic works on the practice of medicine, are often mere *compilations* from the hands of book-makers—men who are not engaged in practice themselves, and who are, therefore, liable to err in their precepts of treatment. Physicians actively engaged as practitioners, find little time to write systematic works, but when they are conscientious, they report their experience in the medical journals, and thus, these medical journals, become the most reliable sources of information ;—they are, at least, worthy of preservation.

We are requested by the publisher of the Southern Medical and Surgical Journal to say, that he will endeavor to supply subscribers with any deficient numbers, in case they desire to bind the volume for 1858.

For the information of subscribers, convenient to this place, we will state that the Bindery Establishments of the CHRONICLE & SENTINEL OFFICE, and of Messrs. THOS. RICHARDS & SON, will do the work neatly, promptly, and reasonably. We commend them to the attention of our readers.

Nature and Art in the Cure of Disease. By Sir JOHN FORBES, M.D., D.C.L. (Oxon.), F.R.S., Fellow of the Royal College of Physicians, Physician to the Queen's Household, etc., etc., from the 2nd London edition, pp. 261, 12mo. New York : Samuel S. & William Wood, publishers. 1858.

So great an evil, in the practice of medicine, is the aggressive medication to which the sick are subjected, and so abundant are the books which inculcate it, that when we find one which attempts to argue for the powers of nature, in the cure of disease, *we*, at least, are disposed to

listen to its counsels and to weigh, tolerantly, its opinions. It is the experience of almost every practitioner that, as he advances in life, he becomes less reliant upon indiscriminate drugging, and more willing to trust to nature, in maintaining and in restoring health.

In the work before us, the distinguished author urges most powerfully the recognition of the *powers of nature*, to arrest the processes of disease; and, if he is ultra in his views, we still do not condemn his book, but rather *commend it on that account*; at the present day, nothing less than the strongest argument, the most ultra earnestness, can arrest the tide which has so long set in for "strong physic and a plenty of it."

Every young practitioner and student of medicine should purchase and read this book—should early lend his ear, to one who offers to whisper a word for nature, a word which may in after-life save him much bitter self-reproach, and which may rescue from the jaws of death, many a patient whom he would give his right hand to save.

In addition to the above work, we have received from the Messrs. Wood, two others, which, in their way, may be regarded as perfect gems, viz., 1st, *Mind and Matter*, by Sir Benjamin Brodie; and 2nd, *Uræmic Convulsions*, by Carl R. Braun—both these last shall receive attention in our next issue.

Skoda of Vienna.—From a review of a work on Clinical Teaching in Germany, and especially in Vienna, by Dr. Gallarvardin, in the Edinburgh Medical Journal, we extract the following sketch, a pen and ink portrait of the celebrated Skoda—the very type "of the spirit and tendencies of the Vienna school."

"That which constitutes the originality of Skoda among all the clinical teachers of Germany, and which has made for him so universal a reputation, is his skepticism. In medicine there has been rarely seen, if ever, a *doubter* so absolute, so fervent; for his is no *theoretical* skepticism (which is a very common thing), but a *practical* skepticism, which he actively propagates both by his teaching and through the writings of his pupils, and by its application at the bed-sides of the sick. Thus from his name any physician who neither believes in, nor practices any form of therapeutics, is termed *Scodist*. *Scodism* among the Germans is pyrrhonism in medicine. We would lay long odds that our reader could never divine the remedy which Skoda applies at the bed-side. Every year during nine or ten months of clinical lessons, he employs on his twenty-eight sick—*patients* they may indeed be called—in *succession* all the most classical, most celebrated means of cure, and do you know with what intention? Simply to convince his pupils that all these medications are always and completely *inefficient*. If by chance—*chance* is indeed the term to use here—if on any treatment there supervenes a prompt and very marked amelioration, he attributes all the honor to the natural course of the disease.

Example.—A young man of nineteen, very robust, comes into the hospital on the 11th May, on account of a pneumonia of the right lung, of a highly inflammatory and severe form.

On the 13th and 14th, Skoda causes him to take infusion of fox-glove, which induces six stools a day.

On the 15th a pound of blood is drawn from the arm by his orders.

Next day, the 16th, pulse, which on the preceding evening was at 106, falls to 66.

To explain so notable and prompt a modification of the pulse, Skoda expresses himself in these terms: "Perhaps it is the effect of the bleeding, such things have been seen; perhaps, too, it may have been the effect of the fox-glove, that has been seen too; it may also be considered as connected with the natural evolution of the disease, that has been seen too." Skoda reasons habitually after this fashion, never denying in a very decided manner. In this way, little by little, he *insinuates* doubt into the minds of his disciples, all the more surely that he does not insist on its reception; so that finally these come insensibly to lose all practical faith—to raze from their medical vocabulary the word *causality*, just as their master does.

Skoda is of the *young school*. Thus we have never heard him quote a single physician who flourished before the first years of the present century, and of course *a fortiori*, he never cites any physician of antiquity. He thinks it perfectly useless to know how the problems of philosophical and practical medicine, always the same, at all times, and in all places, having always for their subject 'man sick,'—how these problems, we say, have been agitated, and resolved by Hippocrates, Galen, Baglivi, Stahl, Boerhaave,—nay, even by the men who shed lustre on the school of Vienna, Van Swieten, Stoll, Hildenbrand, J. P. and Joseph Franck."

American Med. Monthly.

Constipation of Infants.—It cannot too often be stated, that there is nothing more dangerous to children than repeated laxatives. They operate once, but only to leave the bowels more subject to constipation than ever. Prof. Clar (*Jahrbuch für Kinderheilkunde und physische Erziehung*, 1858, iv., p. 230) gives two indications, which are to be fulfilled by stimulation—1st of the intestinal mucous membrane; 2d, of the action of the intestinal muscular fibres. The first is effected by injections of soap, sulph. magn. sulph. sod. chloret. sodii, dissolved in water; where any contra-indication forbids the injection of salts, injections of sugar and water will be found useful. In order to stimulate the muscular fibres of the intest. crassum, he recommends dec. tarax., dec. gramin., with an addition of tinct. colocyeth, tinct. rhei aq., tinct. rhei vin., tinct. aloes, or a mild inf. rad. jalap. or inf. fol. senn.

[Wherever, for the last few years, I have met with obstinate constipation in infants, I generally succeed in giving speedy and full relief, by ordering some sweet sugar water to be taken every day, besides the breast. I am satisfied, that the chief cause of constipation in nurslings is the insufficiency of sugar in the breast milk, the proportions of which are, naturally, not the same with every mother. Wherever caseine exceeds the proportion of the other parts of the milk, it becomes indigesti-

ble by a relative want of lactic acid in the contents of the stomach and intestines.—[*New York Jour. of Medicine.*]

Bi-Sulphuret of Carbon.—Mr. James Schiell, of St. Louis, describes the mode of application, and some of the therapeutical uses of this substance. He directs that, of a mixture composed of equal parts of the bi-sulphuret and alcohol, a little shall be poured on a tuft of cotton, which is to be rubbed "pitilessly over the affected part four, five, or six seconds. A strong, burning sensation follows, lasting only a few seconds, with the cessation of which ceases also the suffering of the patient. Sometimes a second or even a third application, at intervals of two or three minutes, is necessary, and the pains will disappear as if the suffering part had been touched by a magic rod." In two cases of bilious colic, after a strong dose of calomel had been given, friction over the abdomen, with the mixture as above, (bi-sulphuret of carbon and alcohol) removes the pain in a few seconds. In addition to the treatment just mentioned, an injection, containing half a teacupful of glycerine, was administered.—[*St. Louis Med. and Surg. Journal.* and *North Amer. Med. Chir. Review.*]

Treatment of Gonorrhœa by the Yellow Jessamine. (Charleston Med. Journal and Review, July, 1857.)—Dr. John Douglas describes a case of gonorrhœa which was successfully treated by the yellow jessamine (*Gelseminum sempervirens*). The patient had been suffering for some months from improperly-treated gonorrhœa. A small handful of the root of the plant was put into a bottle of whiskey, and the patient was ordered to take a tablespoonful of this tincture night and morning. The immediate effect was rather alarming, as the vision was impaired; but every symptom of gonorrhœa had ceased, and the cure was permanent. It appears that the flowers, roots, and the whole plant are narcotic, and that in South Carolina a saturated alcoholic tincture has long been used with marked success in rheumatism.—[*Brit. and For. Medico-Chir. Review.*]

Pine Sap in Phthisis.—The pine sap, recommended by Dr. Desmarteas as a remedy for consumption, we suppose is simply the juice of the pine-tree—any pine tree—as it flows from the incisions in the bark, before it thickens by exposure to the air. It is obvious that it can differ but little, if it differs at all, from the turpentine of commerce. It is by no means a new idea to use the products of the turpentine tree in affections of the lungs, and sometimes, we have no doubt, with decided advantage. Everybody knows something of tar water, and the vapors of rosin, and many persons have great confidence in their virtues. We have known turpentine pills—we don't mean the oil of turpentine, but the inspissated juice—to play the part of a specific remedy in the hands of a quack doctor, who placarded the country with his wonderful cures of consumption. A decoction of larch has been recently recommended in England and Ireland by professional authority, for the like and other purposes. The larch yields turpentine, and therefore it can hardly be questioned that whatever remedial power it possesses is derived from the terebinthinate quality of the decoction. Because it cannot be called a new remedy, is no reason for refusing it a trial.—[*Druggists' Circular.*]

Scarlatina and Measles.—Mr. Witt, member of the Royal College of Surgeons, has published a pamphlet in which he states that carbonate of ammonia is a specific for the cure of scarlet fever and measles. He cites Dr. Pearl, of Liverpool, and other practitioners, who have never lost a case out of hundreds since adopting this remedy. Two drachms of the bicarbonate of ammonia are dissolved in five ounces of water, and two tablespoons of the solution given every two, three or four hours, according to the urgency of the symptoms. No acid drink must be taken, but only water, or toast and water. The system is to be moved by a dose of calomel if necessary. The room must be well ventilated, but the patient protected from the slightest cold or draft. Gargles should also be employed for clearing the throat. The ammonia, it is said, counteracts the poison which causes scarlatina, and also acts on the system, by diminishing the frequency, and, at the same time, increasing the strength of the pulse. As so many children die from these diseases in this country, this remedy ought to receive a fair trial from the profession.—[*Newspaper*.]

Lupus Exedens cured by Cod-liver Oil.—Mr. Hunt exhibited a patient who, under a protracted course of cod-liver oil in small doses, had been cured of lupus exedens, of the strumous character. The patient was a woman 22 years of age, and had suffered from the disease for 12 years, the ulceration having involved a portion of the nose and face. The oil was administered in drachm doses, three times a day, and continued for some months.—[*Dublin Med. Press*.]

Uva Ursi, as an Obstetrical Agent.—Dr. Beauvais strongly recommends the substitution of this for the secale cornutum, being as efficacious, and far more innocent in its operation. In ordinary delayed labor he gives grs. xv, in infusion every hour; but when rapid effects are desired, as in metrorrhagia, a decoction of 4 drachms to a quart of water should be employed, in divided and frequent doses. In hæmaturia, incontinence of urine, menorrhagia, etc., he has found a syrup, made of 90 parts of the leaves to 1000 parts of sugar, and 9.8 of boiling water, a good preparation.—[*Virginia Med. Journal*.]

Vaccination in Germany.—About twenty petitions, complaining of the obligations imposed on all of the inhabitants of Wurtemberg to have themselves vaccinated, were lately presented to the Chamber of Deputies of that kingdom. The chamber referred them to a committee, and the committee, at a late sitting, presented a report, recommending that a special commission should be charged to make a searching investigation into the grievance in question. But the Chamber passed to the order of the day.—[*London Lancet*.]

Of the Preparation of Pastiles of Pepsin.—In order to render pepsin an agreeable medicine for children, M. Corvisart had recommended a preparation of syrup of cherries with pepsin. But it was found by M. Berthé, that by the action of sugar upon pepsin, the latter was modified and transformed into glucose and lactic acid. The presence of water

being the principal cause of the alteration, M. Berthé has adopted the form of pastiles. They are composed of gum arabic paste, with a few drops of essence of lemon, and when the mass is quite homogeneous, twenty-five centigrammes of pepsin are added to each pastile, which is very agreeable to the taste.—[*Bulletin Général de Thérapeutique*, from *American Jour. of the Med. Sciences*.]

Pepsine Wine.—We find in *L'Union Médicale* that the following pepsine wine is extremely agreeable and efficacious:—Take of starchy pepsine, prepared according to Messrs. Corvisart and Bourdault's formula, one drachm and a half; distilled water, six drachms; white wine (of Lunel), fifteen drachms; white sugar, one ounce; spirit of wine, three drachms. Mix until the sugar is quite dissolved, and filter. One tablespoonful of this wine contains about fifteen grains of pepsine, and may be given after every meal.—[*Pacific Med. Journal*.]

New Vienna Caustic.—M. Dujardin, of Lille, having observed the inconveniences attending the use of the Vienna caustic, owing to the chemical reactions set up between the potash and the lime, which is never pure, and the composition of which is very various, has proposed to combine the potash with calcined magnesia, with clay dried at the fire, with fine dry sand, with inappalable powder of pumice stone; of these, he prefers the combination of caustic potash with clay. The preparation should be preserved in well stopped bottles.—[*Ibid*.]

New Caustic Paste with Chloride of Zinc and Gluten.—M. Sommé has been led to the employment of gluten instead of flour in the formation of caustic paste, by observing that the paste was more adhesive and easy to preserve in proportion as the flour which he employed was more rich in gluten. The gluten is obtained from the best wheaten flour, and the chloride of zinc and the gluten are mixed in the following manner. The chloride is placed in a porcelain capsule, and dissolved in alcohol with a gentle heat; then the gluten in powder is spread uniformly over the liquid mass and triturated, so as to incorporate the two substances completely together. This paste is very plastic, and may remain for a long time exposed to the air without liquefying, and it may be handled with impunity, if there are no excoriations on the skin. It may be used in mass, in plates, and in cylinders, the latter form being applicable in the case of deep fistulæ.—[*Ibid*.]

Employment of Nitrate of Silver as an Abortive in Paronychia.—Dr. Guinier, of Montpellier, proposes to employ the nitrate of silver in the treatment of whitlows, at a period when the disease is in a very early stage. He moistens lightly all the red and painful surface, and then passes over it slowly the extremity of a stick of nitrate of silver, and the operation is continued sufficiently long to be sure of the penetration of the caustic through the epidermis, which is indicated by the brownish colour of the latter. The skin is at first made brown, and after some hours takes a beautiful black tint, and from this moment the cure is complete. After some days the caustic epidermis peels off.—[*Ibid*.]

On the Preparation of Valerianate of Ammonia of definite composition.—This salt could never be obtained, up to a recent period, in a pure state and solid. In fact, in treatises on chemistry, the valerianate of ammonia is described as liquid and amorphous, and the persons who prepare chemical products have never been able to present it in a solid and crystalline state, pure, and of a constant composition. MM. Labourneur and Fontaine have attempted to supply the deficiency. Their proceeding consists in preparing, in a pure state, valerianic acid and ammoniacal gas, and then uniting these bodies. In proportion as the combination proceeds, the salt crystallizes in a form apparently confused; but under the microscope prisms may be very well distinguished, having four terminal planes. The formula for preparing this salt is the following:—Take mono-hydrated and pure valerianic acid, dispose it in thin layers in a flat capsule, covered with a bell-glass completely closed. Pass into the bell-glass anhydrous ammoniacal gas to saturation of the valerianic acid, and preserve the valerianate of ammonia in small portions in well-stopped bottles.—[*Ibid.*]

Extemporaneous Preparation of Chlorine as a Disinfectant.—The chloride of lime, usually employed as a means of disengaging chlorine, has, besides its price, the inconvenience of being rather rapidly exhausted. M. Lambossy substitutes for it a cheap and simple preparation, consisting of common salt, red-lead, sulphuric acid, and cold water. The red-lead is mixed with the salt, and introduced into a bottle full of water. The sulphuric acid is added afterwards gradually, and shaken at intervals. By this process, sulphate of lead is formed and precipitated, and sulphate of soda and chlorine remain dissolved in the water. The chlorine, which gives the liquid a yellow colour, is disengaged as soon as the bottle is opened. To produce a more rapid disengagement, the liquid is poured into flat plates, so as to offer a large surface for evaporation.—[*Ibid.*]

On the Injection of a Solution of Chlorate of Soda into the Bronchi of Children affected with Croup.—In consequence of the troublesome cough which often supervenes after the operation of tracheotomy in croup (notwithstanding the great care recommended and practised by M. Trousseau), M. Barthéz has injected into the bronchi of the little patients a few drops of the chlorate of soda. He prefers the soda to the potash-salt in consequence of the great solubility of the false membranes in a solution of the former. Some cases have been thus treated in the wards of the Hospital of Ste. Eugénie, and it is stated that their condition was improved by these injections. The instillation of water and nitrate of silver is not a new practice, having been already adopted by M. Trousseau; but the question remains, whether the employment of the chlorate of soda adds to the efficacy of the operation.—[*Ibid.*]

Professorial.—Dr. Jas. B. McCaw, who has long and ably edited the Virginia Medical Journal, has been elected to the chair of Chemistry, in the Medical College of Virginia, lately held by Dr. Martin P. Scott.

SOUTHERN MEDICAL AND SURGICAL JOURNAL.

(NEW SERIES.)

Vol. XV.]

AUGUSTA, GEORGIA, FEBRUARY, 1859.

[No. 2.

ORIGINAL AND ECLECTIC.

ARTICLE IV.

Observations on Malarial Fever. By JOSEPH JONES, A.M., M.D.,
Professor of Medical Chemistry in the Medical College of
Georgia, at Augusta.

[Continued from page 743 of November No. 1858.]

CASE XXXVIII.—Irishman: age 28; height 5 feet 7 inches, weight 140 lbs.; dark brown hair, brown eyes, dark complexion—has been in America eight years, and in Savannah nine months. Engineer on steam-tug running up and down the Savannah river. One month ago was discharged from the steam-tug, and commenced “day labor” along the wharves, and at the saw-mill. Habits intemperate. Has been sick one week. Says that three days ago he took a large dose of castor oil, which operated ten times. On the following day took three blue pills, and yesterday took another dose of castor oil, which has been operating up to the present time.

August 24th, 1857, 1 o'clock P. M. Has just entered the hospital. Skin cool; tongue coated with yellow fur; pulse 120; complains of great weakness.

R. Sulphate of quinia, grs. xv.; infusion of Virginia snake-root, f 3 xvi. Mix. f 3 ij. every two hours. Diet, gruel.

August 25th, 12 o'clock M. Complains of great pain in his back; surface of trunk and extremities cool; tongue dry at tip and centre, and coated with yellow fur; no tenderness upon pressure of epigastrium; bowels loose.

R. Stop sulph. of quinia and infusion of Virginia snake-root.

R. Calomel grs. xij.; James's powder (pulvis antimonii compositus) grs. xxij. Mix, and divide into six powders. Administer one powder every three hours. If extremities continue cool, apply mustards.

August 26th, 12 o'clock M. During the afternoon of yesterday was very feeble, and at one time was almost pulseless. The nurse administered brandy. This induced reaction. Now, skin of trunk and extremities cool and moist; complexion pale, sallow; lips and gums very pale; tongue coated with yellow fur, and dry at tip; pulse small and weak—so feeble that it is with difficulty that it can be felt at all. Pulse 120; respiration 22. Temperature of hand $95^{\circ} 5$ F.

R. Burnt brandy and infusion of Virginia snake-root. Apply shifting sinapisms to extremities. Diet, arrow-root and brandy.

8 o'clock P. M. Pulse a little stronger, but still very weak, 112; surface of trunk and extremities warmer; tongue cleaning off towards the tip—the clean portion is very red, dry and glazed. Has no pain, and rests quietly—appears to be very weak.

R. Continue brandy and infusion of Virginia snake-root.

August 27th, 12 o'clock M. Pulse 120, larger in volume, but still very feeble and with difficulty counted; respiration 24; skin a little warmer. Temperature of atmosphere, 87.5° F.; temp. of hand, 98; temp. under tongue, 98.5. There is a great want of co-ordination between the actions of the circulatory and respiratory systems. Says that he is very weak—his appearance is that of complete exhaustion. Superior portion of the tongue coated with dry, yellow fur—a lozenge-shaped space of the surface of the tongue extending for one inch, from the tip to the centre, is clean and of a brilliant red color. Teeth coated with sordes; hands and tongue tremulous—says that he feels very weak. Has no pain anywhere, and lies quiet.

R. Stop the calomel and James's powder. R. Sulph. of quinia, grs. ij. every two hours up to grs. xvi. Continue brandy and infusion of snake-root.

Urine, orange-colored, several shades higher than in health, but much less highly colored than usual in severe cases of malarial fever. Reaction slightly acid; sp. gr. 1009—contained, as usual in uncomplicated cases of malarial fever, no albumen and no grape sugar. Amount of urine collected during the last 24 hours, grains 16,144. The nurse states that this is the whole amount that has been passed.

ANALYSIS LXI.	Urine excreted in 24 hrs. grains 16144 contained grains,	1000 parts of Urine contained,
Water,	15745.336	975.306
Solid Matters,	398.664	24.674
Urea,	170.610	10.499
Uric Acid,	A trace, scarcely visible.	A trace.
Extractive and Coloring Matters,	203.683	12.560
Fixed Saline Constituents,	24.161	1.496

7 o'clock P. M. Much worse. Pulse 140, feeble; respiration 40, labored, panting. Extremities feel cold. Temperature of hand, 90°. Restless; groans and sighs frequently; inclined to stupor; intellect sluggish. When aroused, appears to be sensible, but articulates with great difficulty. The heart appears merely to flutter—the sounds are so rapid and feeble that they are counted with difficulty. The circulation in the capillaries is sluggish and feeble. The temperature, the index of the chemical changes of the elements of the solids and fluids, is below the normal standard and does not correspond with the frequency of the circulation and respiration. No pain upon pressure of epigastrium. Asks for water continually, and complains of much thirst. The nurse has just raised him up to administer brandy: he groans, and tosses about the bed and makes several ineffectual efforts to rise. In a few moments he is quiet, and apparently asleep.

This patient died thirty minutes after this observation.

(10). AUTOPSY TWELVE HOURS AFTER DEATH.

Exterior.—Body muscular, with well developed limbs and prominent chest; trunk and limbs round and not emaciated; adipose matter not wasted; color of muscles, when the integument was removed, red and normal. Color of the skin of the superior parts of the corpse, pale, bloodless. Color of the skin of the inferior parts of the corpse, of a dark purple. This dark purple color gradually diminished towards the superior parts of the body, and appeared to have been due to the gradual settling of the blood in the capillaries of the most dependent parts, towards the close of life, when the general and capillary circulations were feeble. Lips and gums very pale, almost white; teeth loaded with sordes.

Head.—Dura-mater unusually thick and firm, and adherent in several places to the arachnoid membrane. The thickening of the dura-mater and the adhesions were of long standing, and were not connected with this attack of malarial fever. Blood-vessels of the dura-mater filled with blood.

Arachnoid membrane opalescent, pearl-colored, and in many places adherent to the pia-mater. These adhesions, like those between the dura-mater and arachnoid membrane were apparently of long-standing. Between the arachnoid membrane and pia mater, bloody serum was effused, thus imparting to these membranes (especially the inferior portions from the gravitation of the blood) a red appearance.

Blood-vessels of pia-mater were filled with blood. The blood-vessels of those portions of the pia-mater which extended into the ventricles of the brain, were also engorged with blood. The ventricles of the brain contained a small quantity of clear serum.

Structure of cerebrum appeared to be softer than normal. This softening may have been the result of partial decomposition. Blood-vessels in the substance of the brain, distinct, and more engorged with blood than usual.

Structure of cerebellum, medulla oblongata, and superior portion of spinal cord, appeared to be normal. Blood-vessels of spinal cord appeared to be more congested with blood than usual.

CHEST.—*Heart*, normal in structure; contained several clots of blood, which, from their ragged appearance, light yellow color, and freedom from colored blood-corpuscles, must have been formed before death. Long, fibrous coagula were found in the aorta and vena cava.

Lungs.—Old adhesions in several places. Numerous small tubercles were scattered throughout the tissues of the lungs: the tubercles did not appear to have suppurated. During his sickness, this patient showed no signs, either in appearance or in action, of the existence of these tubercles.

Superior portions of the lungs (leaving out of view the tubercles) were normal in color and density. The inferior portions were engorged with blood, and the most dependent portions were almost black from the great engorgement of the blood-vessels and capillaries, and when cut, resembled in appearance and density portions of liver. The accumulation of blood in the lower portions of the lungs was due to the action of gravity, during the feeble state of the circulation previous to death. The chemical changes of the elements of the blood and tissues had been greatly diminished, previously to death; the physical forces resulting from these chemical changes, which propelled the circulatory apparatus and worked all the machinery, were correspondingly diminished, and the blood gradually obeyed the physical law of gravity, which, although constantly acting during health, was counterbalanced by the physical forces, developed by the chemical changes of the elements of the organism.

ABDOMEN — *Liver*, normal in size, and of a slate color externally, and of a dark bronze color internally. Substance firm. When pressed, the dark yellow, greenish bile flowed out in small quantities from the cut ends of the hepatic ducts. Blood-vessels of the liver appeared to contain more than the normal quantity of blood. Blood of liver, dark purplish brown, and did not change to the arterial hue when exposed to the action of the oxygen of the atmosphere.

The liver contained animal starch, but no hepatic sugar.

Under the microscope, the cells of the liver appeared normal, with the exception that many of them contained more oil globules than usual.

The gall-bladder was filled with bile, which was of a dark

brownish green, when seen in mass, and of a gamboge color, when viewed in thin layers. The surface of the gall-bladder was of this gamboge color, from the endosmosis of the bile, probably after death.

Spleen, enlarged; color, dark slate, two shades darker than the liver. Tissues of spleen softened, partially disorganized. When the organ was pressed gently between the fingers, it was evident that the tissues gave way.

Mud of spleen, of a dark purplish-brown color. This dark color was not altered, notwithstanding that it was exposed to the action of the atmosphere for 24 hours. When first removed, the mud of the spleen coagulated slightly—the coagulum, however, possessed no consistency, and was readily dissolved. When the mud of the spleen (pulp and extravasated blood) was examined under the microscope, it was found to consist of colored and colorless blood-corpuscles, and numerous granules of a black color. These black granules were frequently conglomerated together, forming dark flakes, like the coffee-ground sediment of the black vomit of yellow fever. Many of the colored corpuscles appeared to be swollen. The colorless corpuscles appeared to be more numerous than normal.

ALIMENTARY CANAL.—*Stomach*, contained no fluid or gas; blood vessels upon the exterior filled with blood; mucous membrane of stomach of a dark purplish color. The color of the mucous membrane was not uniform, it was much deeper in some spots than in others, thus presenting a mottled appearance.

The compound muciperous follicles (Brunner's glands) of the stomach and duodenum, were prominent and enlarged.

Blood-vessels of the superior and inferior portions of the intestinal canal appeared to be more engorged with blood than those of the middle portions. The mucous membrane of the small intestines was covered by a layer of mucus and fecal matter, colored yellow by the bile.

The solitary glands in the inferior portion of the ileum, and especially in the region of the ileo-cæcal valve, were enlarged and distinct.

The glands of Peyer were distinct, but not enlarged or inflamed.

The serous membrane of the intestines bore the marks of an old inflammation. The serous membrane was thickened, and organized bands of coagulable lymph in many places bound the large and small intestines together, and to the walls of the abdominal cavity. This inflammation had nothing whatever to do with the present attack.

Kidneys.—Normal in size and structure—blood had settled in the vessels and capillaries of the inferior dependent portions. *Color of superior portions of kidneys normal; color of inferior dependent portions almost as dark as the slate-colored liver.*

The blood-vessels and capillaries of the cellular tissue of the posterior dependent walls of the abdominal cavity were engorged with blood, whilst those of the upper anterior and lateral walls were almost devoid of blood. This was due to the action of gravity upon the enfeebled circulation. The facts which we have presented, show that the capillary circulation had been greatly enfeebled in every organ and tissue, previous to death, and the blood necessarily accumulated in the most dependent blood-vessels and capillaries. This view is farther confirmed by the fact, that the vena-cava contained but little blood.

The bladder contained 5000 grains of light colored urine.

Reaction acid. Sp. Gr. 1008.7. After standing 48 hours no deposit was thrown down. This was also true of the former specimen of urine.

ANALYSIS LXII.	Grs. 5000 of Urine, contained grains,	1000 parts of Urine contained,
Water,.....	4863.140	972.628
Solid Matters,.....	136.860	27.372
Urea,.....	38.945	7.789
Uric Acid,.....	0.240	0.048
Extractive and Coloring Matters,	88.005	17.601
Fixed Saline Constituents,.....	9.120	1.824

CONCLUSIONS.

(1). The slate colored liver—the dark greenish brown bile—the absence of grape sugar, and the presence of animal starch in the liver—the slate-colored, enlarged, engorged, softened spleen—demonstrated that this was a case of malarial fever.

(2). The rapid but feeble action of the heart—the rapid but feeble pulse—the depressed temperature of the trunk and extremities—the dry red tongue—the complete exhaustion of the muscular and nervous force—the acid light-colored urine—the feeble general and capillary circulation, gradually overcome by the action of gravity—the gradual settling of the blood previous to death in the blood-vessels of the most dependent parts of all the organs and tissues—the alterations of the blood corpuscles of the liver and spleen—the alterations in the color and constitution of the bile—the destruction of the special ferment in the blood which converted the animal starch into grape sugar—demonstrated that the malarial poison, had not only interfered with the action of the cerebro-spinal system, but had also affected the sympathetic system, and produced profound alterations in the structure of the nutritive fluids and correspondingly interfered with the chemical changes, the developement of the forces, and the formation of the secretions and excretions.

(3). The rapid exhaustion of the forces were, without doubt, due, in a great measure, to the severe purgation to which this patient had been subjected, previous to his entrance into the

hospital, and to his previous intemperate habits, and to the presence of tubercles in the lungs. The administration of large doses of purgative medicines (castor oil and blue pills) without any sulphate of quinia, and without any stimulants, converted an ordinary case of malarial fever into a congestive malarial fever. The term *congestive*, as applied to this case, means nothing more than a state of exhaustion, inability to resist the action of the malarial poison, inability to react.

(4). The plan of treatment in this case was correct in principle, but radically deficient in energy. Stimulants were administered, but not in sufficient quantities. Sinapisms were used, but not often enough, nor large enough, nor long enough. Sulphate of quinia was administered, but too infrequently and in too small doses, to be efficient, and much valuable time was wasted. This case demanded prompt and vigorous action. Large doses of the sulphate of quinia and the most diffusible and powerful stimulants should have been promptly and frequently administered, and the extremities should have been repeatedly covered with sinapisms. We hope to demonstrate, by future cases, that the patient would have stood a much better chance of recovery under this mode of treatment.

CASE XXXIX.—German, aged 27; height 5 feet 9 inches; weight 160 lbs.; brown hair, blue eyes, florid complexion; thick-set, stout and muscular; thick short neck; person filthy; habits intemperate. Last winter and spring he was in the hospital with a large ulcer upon the leg. Has been working for three weeks in a malarious locality, near Lover's lane, on Thunderboldt road. Has been much exposed to the hot sun and cold night air.

August 21st, 1 o'clock P. M., 1857. Entered the hospital yesterday afternoon, at 4 o'clock P. M. The nurse states that during the night he appeared to be out of his head, and would frequently start out of bed with a loud shout. Complained bitterly of his head. Had two convulsions during the night, one at 12 o'clock M., and the other at 2 o'clock P. M.

Now, 1 o'clock P. M., this patient appears to be suffering intense agony in his head and has a hot fever. Both hands are clasped around his head and he tosses violently about in his bed. Every breath is accompanied with a deep groan, and an exclamation about the pain in his head. He is unable to give a coherent answer.

Applied immediately four cut-cups to his head, (two to back of neck and two to temples); also a large mustard plaster, over his epigastrium, and one to each leg. Abstracted $f\frac{3}{4}$ xvij. of blood in the standing posture, until he fell back upon the bed, completely exhausted. The loss of blood was attended with

almost immediate relief of the pain in his head. The burning heat of the head and skin was almost immediately diminished, and the dry and parched skin was soon covered with perspiration. The pulse and respiration were diminished in frequency. Respiration 39; Pulse 92. Temperature of atmosphere 80° F.; temp. of hand, 89; temp. under tongue, 97. The temperature under the tongue is 3°, and the temperature of the extremities is 9°, below the normal standard. The temperature was not ascertained by the thermometer before the abstraction of the blood, owing to the great suffering and restlessness of the patient, but judging by the sense of touch, it is evident that the temperature has diminished rapidly since the abstraction of blood. The wild and restless glances of his eye, and the violent tossing of his body, have ceased; the pain in his head has almost entirely disappeared, his intellect is calm, and he converses rationally.

Tongue thickly coated with yellow and black fur, tip and edges clean and of a scarlet color. Previous to the bleeding, the tongue was dry, rough, and when the fur was absent, glazed—now it is more moist, but still much dryer than normal.

He states that the fever came on three days ago, with a chill, and pain in the head; and that it has continued unabated, up to the present time. Says he took blue pills and oil yesterday morning, before entering the hospital, which operated freely. His testicles are much swollen and the scrotum is very red and inflamed, and the cuticle is abraded in several places. Complains of great thirst.

R. Citrate of potassa, ʒi.; Bicarb of potassa, ʒi.; water, fʒxviiij. Drink ad libitum.

August 22d, 12 o'clock M. Head is well. Has not complained of his head since the abstraction of blood. Superior portion of tongue, coated with thick, dry, yellow fur, inclining to black in the centre. Tip of tongue clear, bright red, dry and glazed. Complains of an unquenchable thirst. Lies quietly. Respiration 52, hurried, labored, thoracic, striking the attention of the most casual observer. Pulse 112. Skin of trunk feels hot to the hand. Temperature of atmosphere, 81° F; temp. of hand, 99.; temp. under tongue, 104. Epigastrium very tender upon pressure.

R. Blister, 6 inches by 6 inches, over epigastric region. R. Calomel, grs. v.; Rhubarb, grs. viij. Mix. Gruel and Flaxseed tea.

August 23d, 12 o'clock M. Says that his head is much better and that he feels perfectly well. Blister has drawn; serum from the blistered surface of a golden color. Medicine operated four times; evacuations small. The tongue presents the same appearance. Tenderness of epigastrium greatly diminished. Pulse 72. Respiration 34, thoracic, labored. Skin cool. Temperature

of atmosphere 78°F.; temp. of hand, 89; temp. under tongue, 96 to 96.5. The temperature under the tongue appeared to be variable, rising and falling between 96 and 96.5. There is a great want of co-ordination between the circulation, respiration, and the chemical changes.

R. Calomel, grs. xij.; James's powder (pulvis antimonii compositus), grs. xxij. Mix and divide into six powders, and administer one powder every three hours in a tablespoonful of snake-root tea. Sponge skin with salt dissolved in dilute alcohol. Diet, gruel and gum water.

August 24th, 9½ o'clock A. M. The nurse states that he has been restless during the night and apparently out of his head. Several times he sprang out of the bed with a loud shout. At one time he insisted that he was perfectly well, and affirmed that he was going down to the hotel to get a cup of coffee, some boiled eggs, and a good drink of brandy.

Now, his respiration is spasmodic, 40 to the minute. Pulse cannot be felt. Have administered brandy, but he is unable to swallow or to articulate.

He died 15 minutes after this observation. His death struggles were severe and distressing. Deep and violent inspirations and expirations; mouth filled with froth, which was scattered in every direction with the violent expirations.

(11). AUTOPSY FOUR HOURS AFTER DEATH.

Exterior.—Stout and muscular; limbs full. There had been no wasting of the tissues; skin sallow.

Head.—When the skull-cap was removed, f 3 ij. of blood flowed from the interior of the cranium.

Blood-vessels of dura-mater filled with blood.

Arachnoid membrane opalescent, pearl colored. Blood-vessels filled with blood. There was a small quantity of yellow serum effused between the arachnoid membrane and pia-mater.

Blood-vessels of pia-mater, engorged with blood.

Substance of the brain was softer than usual. Upon the cut surface were seen the cut extremities of numerous blood-vessels, filled with blood. The lateral ventricles of the brain were nearly filled with yellow serum. Blood-vessels of pia-mater of ventricles engorged with blood. Blood-vessels at the base of the brain and superior portion of the medulla-oblongata, greatly distended with blood. The blood-vessels at the base of the brain appeared to be more distended with blood, than those of the superior portions of the brain.

Chest.—Lungs normal.

Heart.—Normal in size. The exterior of the right auricle and ventricle showed incipient fatty degeneration. Weight of heart, grs. 5025, equals ozs. 11½. The auricles of the heart and the sinuses of the brain, contained small clots.

ABDOMEN.—*Liver*—exterior, slate-colored; cut surface dark bronze color. When the liver was pressed, dark-colored blood, and green biliary matter oozed out from the cut surface. Blood-vessels of liver filled with blood. When the hepatic veins were cut across, several fluid ounces of blood gushed out. The blood of the liver did not assume the arterial hue when exposed to the oxygen of the atmosphere. Structure of the liver firm and apparently not altered in consistency.

Under the microscope, the cells of the liver appeared to be normal. There was a deficiency of oil globules and of the peculiar granules, so common in the secreting cells of the liver. Subjected to the action of acetic acid, nothing peculiar was observed in the liver-cells.

The liver was carefully tested for hepatic sugar—the action of the appropriate chemical re-agents, demonstrated that it was entirely absent. When a drop of a solution of grape-sugar was added to the filtered decoction of the liver and tested with the same chemical re-agents, the presence of the grape-sugar was promptly and decidedly indicated. This experiment shows that the failure of the re-agents to manifest the presence of grape-sugar in the liver was absolutely and unequivocally due to its absence.

Animal starch on the other hand was detected in all parts of the liver. When the liver was boiled, or subjected for several hours to the action of a strong solution of caustic potassa, it was completely dissolved, and the solution assumed a deep purple color, when seen in mass, and a bright pink color, in thin layers.

Gall Bladder, was partially filled with bile, of a blackish green color, when seen in mass, and of a gamboge yellow, in thin layers. Weight of liver, lbs. 5, equal grains 35000.

Pancreas, somewhat enlarged and indurated. This affection of the pancreas was not connected with this attack. Weight of pancreas, ozs. $3\frac{1}{2}$, equals grs. 1525.

Spleen, of a dark slate color, enlarged and disorganized. To the touch, the spleen felt like a sack, filled with a viscid fluid. The capsule was torn upon the least exertion of force. Whilst gently lifting the spleen, in order to sever its attachments, and lift it out of the abdominal cavity, the capsule was torn off for the space of several inches, and my fingers, which grasped the organ, plunged through the disorganized trabeculæ and pulp. When the spleen was laid upon the table and pressed, the mud within was forced into other portions, and the indentation remained, thus showing that the cells of the spleen communicated freely with each other.

The spleen was filled with a substance resembling purplish black mud. This splenic mud was very thick, and dried rapid-

ly when spread upon glass slides. Under the microscope, this was found to consist principally of colored blood-corpuscles. Many of the colored blood-corpuscles presented an altered appearance. In some cases the color appeared darker than normal. Many of the corpuscles were swollen, whilst others were corrugated. That the colored corpuscles had undergone some change, was conclusively demonstrated by the fact, that the color of this splenic mud did not alter during 36 hours exposure to the oxygen of the atmosphere. The splenic mud also contained numerous granules. The number of colorless corpuscles were apparently diminished. This diminution was in all probability relative and not absolute; they appeared to be diminished relatively to the immense number of colored blood-corpuscles. Weight of spleen, ozs. $13\frac{1}{2}$, equals grs. 5895.

Kidneys, pale, but normal in structure; much fat in the pelvis and infundibula of the kidneys. Weight of kidneys, ozs. 11, equals grs. 4812.

ALIMENTARY CANAL.—*Stomach*—Mucous membrane corrugated and of a purplish color, varying in intensity in different spots.

The stomach contained $f\ 3\ viij.$ of a dark greenish-black fluid, which resembled, upon a general view, the black vomit of yellow fever. Under the microscope this fluid was found to contain, numerous mucous corpuscles, epithelial cells, of the mucous membrane and gastric glands, peptic cells and dark granules. These various bodies were of a greenish and yellow color, under the microscope. The action of nitric acid demonstrated that the color was due to the presence of bile. The color of a mass of this fluid from the stomach, was like that of the bile from the gall-bladder, of a dark blackish-green color, whilst the thin layers, like those of the bile, were of a yellow color. I was unable to distinguish any colored corpuscles, notwithstanding the close resemblance to black vomit. The granules did not resemble altered blood-corpuscles.

Small Intestines.—Mucous membrane covered with mucous corpuscles and epithelium, colored yellow by the bile; color of mucous membrane darker than usual. Blood-vessels of the inferior portions of the small intestines, especially in the region of the ileo-cæcal valve, engorged with blood.

Neither the glands of Peyer, nor the solitary glands, were enlarged.

Blood-vessels of colon filled with blood.

Exterior surface of rectum, diversified by numerous ecchymosed spots, of a bright arterial hue.

The blood poured out into the abdominal cavity from the cut vessels, coagulated and formed a firm clot.

CONCLUSIONS.

(1). This case corresponded to that type of malarial fever, which is called by many practitioners *congestive* fever.

(2). After the abstraction of blood, there was no correspondence between the circulation, respiration and chemical changes. Before the abstraction of blood, there was a rapid pulse—rapid, full, thoracic respiration and dry, hot skin and dry, red tongue, accompanied by violent pain in the head. After the abstraction of blood and the application of mustards, there was a slight reduction of the frequency of the respiration and circulation, and a great reduction of the temperature of the trunk and extremities—the temperature of the extremities was reduced 9° below that of health—the pain in the head vanished—the tongue became a little more moist, but none the less red. To a casual observer, the disease would appear in a great measure to have been conquered by the abstraction of blood: the symptoms, however, were only moderated. The congested blood-vessels of the brain were relieved, and the pain arising from the chemical changes and the rapid circulation of the altered blood, through the blood-vessels of this delicate organ, was correspondingly diminished. The temperature of the trunk rose 5° above the normal standard, on the next day, whilst that of the extremities just reached the normal standard. This increase was attended by a far greater acceleration of the respiration and circulation, than was necessary, in health, to produce this increased chemical change.

We have before shown that, if the functions of the organs and apparatus be properly performed, a full, rapid and vigorous circulation and respiration must be attended by the rapid absorption and distribution of oxygen, and corresponding rapid chemical changes.

In this case, we had the rapid circulation and respiration, but a want of corresponding chemical change, and hence conclude, that the malarial poison has acted, either by inducing directly such changes in the blood, as to prevent its absorption of oxygen, or to prevent the rapid action of the oxygen absorbed, or by interfering with the metamorphoses of the solids and fluids of the organs and tissues and nutritive fluids, or by a direct action upon the nervous centres of the sympathetic system, which preside over the chemical changes in the lungs and all the organs and tissues, independent of all previous changes of the blood, or primarily by direct action upon the nervous centres of the cerebro-spinal system, and secondarily, by reflex action upon the sympathetic system.*

* This last mode of action, would be the true excito-secretory action, so ably discussed by our friend and colleague, Dr. Henry F. Campbell, Professor of Anatomy in the Medical College of Georgia. See "Essay on the Influence of Denti-

We conceive that either one of these modes of action would be sufficient to have produced the subsequent phenomena. It is probable that the malarial poison acted simultaneously in all the modes stated, but chiefly by direct alteration of the elements of the blood.

(3). The treatment of this case was radically defective. The blood-letting was proper as a means of relieving the brain, but not as a remedy applied alone, to combat the action of the malarial poison. The blood-letting relieved the brain, but the poison went on acting, altering the chemical relations of the elements of the blood and liver and spleen, more rapidly than ever. Here we have the cerebro-spinal difficulty apparently relieved, whilst the war is raging in the domain over which the sympathetic system is said especially to preside. There was a calm, but it was the calm of conquest—the calm of exhausted nature. The mighty foe carried forward the work of destruction without noise or confusion, because all opposition was levelled, all resistance was subdued. This state of things demanded prompt and vigorous action on the part of the physician. Those remedies should have been administered which would have aroused the capillary circulation—aroused the sympathetic and cerebro-spinal system of nerves, and accelerated the absorption, and distribution and action of oxygen and the chemical changes of the nutritive fluids and organs and tissues, which are the sources of all the forces which work the machinery, and without which we can have the manifestation of no vital phenomena. Brandy, sulphate of quinia, in large doses, and carbonate of ammonia should have been promptly and freely administered, and sinapisms applied.

We hope to show that, although the plan of treatment pursued in this case, when placed in this strong light, is radically defective, still it is one which has been, and is now, extensively employed, and recommended by men of influence in the profession.

CASE XL.—Irish laborer; height 5 feet 10 inches, weight 150 lbs.; black hair, black eyes, dark complexion, resembles an Arab in appearance; person dirty and filthy.

Sept. 2d, 1857, 12 o'clock A. M. Has been sick, on the bay, for 10 days, with an abscess in the palm of his hand. Previous

tion in Producing Disease," by H. F. Campbell, M. D. (Southern Medical and Surgical Journal, new series, vol. vi., No. 6, June, 1850, p. 321.)

"An Inquiry into the Nature of Typhoid Fevers, based upon a Consideration of their History and Pathology," by H. F. Campbell, M. D. (Transactions of the American Medical Association, for 1853.)

See his "Prize Essay, on the Excito-Secretory System of Nerves." Also, his "Classification of Febrile Diseases by the Nervous System." (American Transactions, vol. xi. 1858.)

to this, had been working on the river bank. When first brought (this morning) into the hospital, he appeared to be stupid and urinated in his bed. After the administration of a hot bath, and the lancing of his hand, he was aroused, and now appears to be entirely restored to the exercise of his intellect. Seems to be very weak and complains of no pain, or trouble anywhere, except in the palm of his hand. Skin not warmer than usual; tongue dry, red and glazed, and harsh and rough to the touch. Pulse 82.

R. Infusion of Virginia Snake-root. Diet, gruel.

7 o'clock, P. M. Much better. Converses freely, and complains of nothing.

R. Sulph. of quinia, grs. v., every three hours, up to grs. xv. Continue infusion of Virginia snake-root tea.

Sept. 3d, 12 o'clock, M. Says that he is much better and converses freely. Supposing that the affection of the hand, and probably, neglect, and intemperance, were his only troubles, the state of his pulse and respiration and tongue were not ascertained, and he was passed by with the simple direction to continue the infusion of Virginia snake-root tea.

3½ o'clock, P. M. I was summoned hastily, and found this patient insensible, with his mouth open, and groaning loudly with every breath. His groans sounded very much like the barking of a dog. Countenance distressed, anxious and expressive of great agony; tendons twitching violently; teeth coated with sordes; tongue dry, red and glazed, and harsh to the feeling. Respiration 40, thoracic, panting. Pulse 104. Temperature of hand 103°F. Skin hot, dry and rough. When the attempt is made to arouse him, by violent shaking and loud talking, he mutters incoherently. Great tenderness upon pressure of epigastrium; cries out, whenever this region is pressed.

R. Blister over epigastric region, 6 inches by 6 inches.

R. Two cut-cups to back of neck, and one to each temple. Sinapisms to extremities. Brandy, infusion of Virginia snake-root, and sulphate of quinia.

8 o'clock, P. M. The remedial agents have made no impression. Continues in the same condition, except that he is weaker and his groans are not so loud. Respiration 44, thoracic. Pulse 124. Temperature of Atmosphere, 79°5F.; temp. of hand, 103. Skin dry and harsh.

R. Calomel, grs. xij. Apply blister to calves of legs. R. Continue stimulants.

Sept. 4th, 12 o'clock, M. *The patient has just died.*

The Blister drew, and the serum is of a bright golden color. Several hours before death the whole surface of his body assumed a golden yellow color. Urine discharged during the last 24 hours, copious and only a shade darker than normal.

(12). AUTOPSY THREE HOURS AFTER DEATH.

Head.—When the skull-cap was removed, the dura-mater, presented the usual appearance. Serous effusion had taken place between the dura-mater and membranes and surface of the brain. f 3 iij. of bloody serum flowed from the base of the brain.

The arachnoid membrane was but slightly opalescent—in most places it was perfectly transparen. There had been an effusion of golden colored serum between the arachnoid and pia-mater.

The blood-vessels of the pia-mater were filled with blood.

Blood-vessels at the base of the brain and upon medulla oblongata and spinal chord, more engorged with blood, than those upon the superior portions of the brain. This was without doubt, due solely to the effect of gravity.

The substance of the brain possessed the usual consistency, and appeared to the naked eye, to be normal in structure.

CHEST.—*Lungs* normal; trachea filled with froth.

Heart, normal. Weight of heart, grs. 5687, equals 13 ozs. The right auricle contained a large golden colored clot, which filled almost the entire cavity. The left auricle contained several small yellow clots.

The right ventricle contained several small clots of blood, which resembled, in all respects, coagulated blood. The main trunk of the pulmonary arteries, contained a long, flattened, riband-like, yellow clot, which extended, not only through the large trunk, but divided and sent off branches to each branch of the pulmonary artery; and these again sub-divided and sent branches off to the minor branches of the arteries. When the main clot in the pulmonary artery was gently pulled, the branches were drawn out 12 inches in length, and at their extremities were not much larger than a fine silk thread. The clot was almost entirely free from red corpuscles, of a yellow color, and firm and elastic, and in appearance resembled an organized product. A similar riband-like, yellow, elastic clot, extended through the whole length of the aorta. The blood in the vena-cava was coagulated, but the coagulum was like that of ordinary blood, and much less firm than the clots of the right auricle, pulmonary arteries and aorta.

ABDOMEN.—*Liver*, exterior, slate-colored; cut surface of a dark-reddish bronzed color. The consistency of the structures did not appear to have been altered. Blood-vessels filled with blood. Hepatic vessels contained dark bile. Blood of liver of a purplish and brownish-red color, and did not change to the arterial hue, when exposed to the oxygen of the atmosphere.

The liver-cells, under the microscope, presented the normal appearance.

The liver contained much animal starch, but no hepatic sugar.

The liver was set aside for 24 hours, and again tested for glycogenic hepatic matter (animal starch) and hepatic sugar, with the same result—*an abundance of animal starch, and no grape sugar*. The liver contained much blood, and yet, the glycogenic matter remained unchanged, thus showing that the special ferment which converts this substance into hepatic sugar had been destroyed. Weight of liver, grs. 35875, equals lbs. 5, ozs. 2.

Spleen—Slate colored, softened, disorganized; could not be removed without rupture of its substance. The capsule and trabeculæ appeared to be completely altered in structure—so much altered in structure that the slightest touch was sufficient to rupture them. After careful washing under a stream of water, the trabeculæ presented a red color. The cells of the spleen appeared to be all connected with each other.

The pulp of the spleen was of a dark-reddish and purplish-brown color, and consisted principally of red corpuscles. This mud of the spleen did not change its color during 48 hours' exposure to the oxygen of the atmosphere.

The pulp of the spleen and the fibrous tissue of the trabeculæ and blood-vessels of the spleen contained animal starch. Weight of spleen, 12687, equals lb. 1, ozs. 13.

Kidneys, normal. Weight of kidneys, grs. 5026, equals ozs. 11½.

ALIMENTARY CANAL.—*Stomach*, distended with gas. Mucous membrane discolored by yellow bile, and diversified with punctated spots of a brilliant red color.

Small Intestines contained bile and feces, which were extraordinarily offensive. The calomel and oil, administered previous to death had commenced to operate. When the feces and epithelial cells, colored yellow by bile, were scraped off, the mucous membrane presented the normal appearance.

The glands of Peyer were remarkably large and distinct—several of them were three inches in length; their surfaces were pale, and exhibited no marks of inflammation.

CONCLUSIONS.

(1). This case illustrates the fearful power of the malarial poison, and the necessity of a careful examination of every case of disease occurring during the summer and fall months in a malarious district. This patient, at first, appeared to be suffering only from a local inflammation, and complained of no previous sickness and no pain, except the abscess in the palm of the hand. His companions, who brought him to the hospital, stated that they believed this to have been the only source of pain and sickness.

(2). This case illustrates the importance of always attending strictly to the indications and relations of the pulse, respiration

and temperature, and the condition of the skin and tongue. Throughout this case, the tongue was red, dry and glazed, and there was a want of co-ordination between the pulse, respiration and temperature.

(3). The red, glazed tongue, and spasmodic, panting respiration, and rapid pulse, and the dull intellect, signified exhaustion, and not inflammation, and was treated as such, but not with sufficient energy. If 60 grains of sulphate of quinia, instead of 15, had been administered to this patient during the forty-eight hours after his entrance into the hospital, it is probable that life might have been preserved. We did not deem it necessary to adopt this course of treatment, because we were misled by the statements of himself and his friends, with reference to the history of the disease. In all cases of fever, occurring in a malarious district, the action of the physician should be based upon the relations of the pulse, respiration and temperature, and the state of the tongue, skin, and the character of the urine, and secondarily, upon the previous history of the case.

CASE XLI.—American seaman, from U. S. cutter, age 24, height, 5 feet 10 inches; weight, 150 lbs.; brown hair, brown eyes. This is his first summer in Savannah. Has been employed as a sailor on the United States revenue cutter, which has been cruising during the summer, up and down the Savannah river.

Ten days ago, the cutter was struck by lightning and was placed in the dry dock, at the ship yard, on the river, east of the city. This ship yard is located on the Savannah river, about five hundred yards from the eastern boundary of the city in a malarious district which was formerly under the rice (wet) culture; now the surrounding low-lands are protected from overflows by dams, and are under dry culture. The banks of the river at this locality, are coated with mud composed in large measure of animal and vegetable matters; the banks and bottom of the canal, in which the ships are floated at high water, also contain large quantities of similar mud. The crew of the cutter slept on board one night after she was placed in dry-dock. The crew consisted of ten healthy seamen, and out of this number six were taken sick in the course of ten days. Whilst the cutter continued in the stream the men were healthy, but as soon as they were exposed to the exhalations of the mud, and low-grounds, they were taken sick.

September 24th, 1857. Has just entered the hospital, and says that he had a slight chill yesterday, followed by fever. Tongue coated with brownish-yellow dry fur. Pulse, rapid; intellect dull. Says that his bowels have not been moved for several days.

R. Calomel, grs. xv.; castor oil in four hours.

Sept. 25th. Medicine acted freely. Has fever. Tongue still coated with fur, but a little more moist. The fur shows a disposition to come off in patches. Pulse accelerated—intellect continues dull.

R. Sulph. of quinia, grs. v., every three hours, up to grs. xv. Soda powders.

Sept. 26th. Has been passing his feces in bed, and lies in a comatose condition.

R. Cut-cups to back of head. R. Sinapisms to extremities; blisters to back of neck and epigastric region. R. Infusion of snake-root, and sulphate of quinia. R. Calomel grs. xxiv.; opium, grs. ij. Mix. Divide into 12 pills, and administer one every two hours.

Sept. 27th. Continues comatose. Pulse 106, small and feeble. The blisters drew finely. *The blisters and sinapisms failed to arouse this patient, and he died this afternoon at 1 o'clock P. M.*

(13.) AUTOPSY 20 HOURS AFTER DEATH.

Exterior—Full; limbs round; subject apparently not at all emaciated; skin of the superior (uppermost) portions of the body presented the usual appearance, whilst the skin of the inferior (dependent) parts presented a mottled, purplish appearance. This was due to the settling of the blood under the action of gravity.

Head.—Dura-mater presented the usual appearance.

Arachnoid membrane not opalescent, but presented the usual transparency. Bloody serum was effused between the arachnoid membrane and pia-mater.

Blood-vessels of pia-mater, congested with blood.

Ventricles of brain, almost completely filled with reddish serum. Blood-vessels of the superior portions of the brain more congested with blood, than those of the inferior portions.

Substance of the brain presented the usual appearance and consistency, considering the length of time since death.

Chest—Heart and lungs normal.

ABDOMEN.—*Liver*.—Color of the exterior appeared to be normal, (perhaps a shade darker than usual), with the exception of two slate-colored spots. The largest of these slate-colored spots was four inches in diameter, and situated upon the anterior surface of the right lobe, whilst the smallest was situated upon the posterior surface of the left lobe. When an incision was made into the surface of the liver, through these spots, the structures presented a bronze color for the depth of a quarter of an inch. In all other parts of the liver, the cut surface presented a color only a shade deeper than normal.

Spleen, enlarged, softened, and of a dark slate color.

When the mud of the spleen was exposed to the atmosphere, a part retained the dark-purplish and reddish-brown color, whilst another smaller portion changed to an arterial hue. The difference between these two portions of the splenic mud were clearly seen when a section of the organ was exposed for several hours to the action of the atmosphere. The other portion of the mud of the spleen did not change its color. It is probable that this phenomenon was due to the fact, that the blood had been but recently effused into the spleen. The portions first effused, had lost the power of changing to the arterial hue, whilst those last effused had not lost this power.

Kidneys, normal.

Alimentary Canal.—The mucous membrane of the alimentary canal, from the oesophagus to the anus, presented the normal color, and showed no signs whatever of congestion or inflammation.

CONCLUSIONS.

(1). This case illustrates the rapid and powerful action of the malarial poison.

(2). The brain and its membranes appeared to be normal, with the exception of the small serous effusion which was entirely inadequate to account for the cerebral disturbance during life—the liver, with the exception of the small spots, appeared to be normal in structure—the affection of the spleen was recent—and the alimentary canal, from the mouth to the anus bore no marks of inflammation, and yet this strong, hearty young man, fell a victim to the malarial poison.

The malarial poison appeared to act in this case, directly upon the nervous centres of the cerebro-spinal and sympathetic nervous systems.

(3). The treatment of this case was radically defective—it was wanting in energy. *The effects of the disease were those of exhaustion, and not of inflammation and excitement. The chemical changes of the elements were interfered with, and the correlation of the forces, as a necessary consequence, was disturbed. The manifest indication was to stimulate the exhausted nervous system, and excite those chemical changes, by which the forces are generated, which work the animal machinery.*

The blisters and sinapisms, and cut-cups, and small doses of sulphate of quinia, were right, as far as they went. The last doses of calomel were decidedly wrong, and worse than useless; they simply worked in conjunction with the malarial poison. Large doses of brandy, carbonate of ammonia and sulphate of quinia, should have been administered promptly and energetically, in conjunction with the blisters and sinapisms. The following case, which resembled this one in all respects, will illustrate, in a forcible manner, these conclusions.

CASE XLII.—Seaman, from the United States revenue cutter, and a shipmate of the previous case, (XLI).; and the remarks which were made with reference to the history of that case, apply also to the present one. Age 26; light hair, blue eyes, florid complexion; height, 5 feet 11 inches; weight, 160 lbs. This is his first summer in these regions.

September 25th, 1857. Has been sick two days, says that he was suffering with a thick eruption of prickly-heat. This disappeared suddenly and then the fever appeared. Has fever now.

R. Calomel, grs. xv.; castor oil in four hours.

Sept. 26th. Medicine acted freely; heat of skin much less; tongue heavily coated with yellow fur, tip and edges very red; intellect dull; appears to articulate with difficulty.

R. Sulph. of quinia, grs. v. every three hours, up to grs. xv. Infusion of virginia snake-root.

Sept. 27th. Intellect still dull; tongue presented the same coated appearance. Pulse 83.

R. Calomel, grs. x.; sulph. of quinia, grs. v. Mix and administer immediately.

Sept. 28th, 10 o'clock, A. M. Was delirious during the night, and it was necessary to use much force to keep him in bed. Appears to be much worse this morning, and continues delirious; tongue, heavily coated and very red at tip and edges. Pulse 86. No pain upon pressure of epigastrium.

R. Blister to epigastrium and back of neck. R. Calomel, grs. xxiv.; opium, grs. ij. Mix. Divide into 12 powders and administer one every two hours.

7 o'clock, P. M. Appears to be very weak and stupid. When aroused by shaking, whines and mutters incoherently. Pulse 82; respiration 20; skin dry; tongue presented the same appearance. *It is evident that unless the calomel be abandoned, and a more vigorous method of treatment adopted, this patient will die just as the previous case.*

R. Two cut-cups to each temple; sinapisms to extremities. R. Brandy, f 3 viij; infusion of Virginia snake-root, f 3 viij; sulphate of quinia, grs. xv. Mix and administer a tablespoonful every half hour. R. Sulph. of quinia, grs. v., every three hours, up to grs. xx.

Sept. 29th, 11 o'clock A. M. The stimulants and sulphate of quinia, have been productive of much good. Tongue, although very red, and dryer and rougher than normal, is moister and softer than it was yesterday. During the night, slept soundly, and this morning his skin relaxed and was bathed in a copious perspiration. Intellect clearer. Pulse 78; respiration 15. Temperature of atmosphere, 80°F.; temp of hand, 99. Has taken during the last eighteen hours, forty grains of sulphate of quinia.

R. Give 20 more grains of sulphate of quinia during the next 20 hours, and continue the brandy and infusion of Virginia snake-root, tsblespoonful every honr. Diet, beef soup, and tea.

7 o'clock P. M. Continues to improve and says that he is much better. The blisters have drawn and discharged golden colored serum. Intellect more active, but still much duller than usual. Tongue red, dry and harsh, feels like sand paper—superior portion coated with yellow fur; face much flushed; reaction of saliva decidedly acid; urine high colored. Pulse, 80; respiration, 16. Temperature of atmosphere, 78.5°F.; temp. of hand, 100.33.

R. Mustard to extremities. Stop sulphate of quinia. Continue brandy and infusion Virginia snake-root. Diet, milk-punch, and brandy and arrow-root.

Sept. 30th. Says, that he is much better. Pulse 79; respiration 16. Temperature of atmosphere, 70° F.; temp. of hand, 97.5; temp. under tongue, 100. Tongue still very red, but more moist. Skin dry; reaction of saliva acid.

Urine, of a bright red color, and decided acid reaction—sp. gr. 1022. Uric acid in 1000 parts, 0.538.

R. Continue stimulants and nutritious diet,

Oct. 1st, 11 o'clock A. M. Rested well during the night, and continues to improve. Complains of great weakness. Tongue much softer. Pulse 70; respiration 14. Temperature of atmosphere, 71° F.; temp. of hand, 98; temp. under tongue, 99.5. Urine only a shade higher colored than normal, reaction acid—sp. gr. 1010. Uric acid in 1000 parts, 0.0099.

R. Continue brandy and infusion of snake-root tea. Administer 15 grs. of the sulphate of quinia during the next 15 hours.

Oct. 2nd, 11 o'clock A. M. Surface of blister red and raw; tongue cleaning off; papillæ enlarged and distinct; bowels torpid. Pulse 60; respiration 13, slow and full. It is probable that the frequency of the respiration is diminished by the blistered surface. Temperature of atmosphere, 76° F.; temp. of hand, 97.75; temp. under tongue, 99.5.

R. Continue stimulants and nutritious diet, milk punch and mutton soup.

Urine, of a bright red color, sp. gr. 1020—turbid after standing several hours. Amount passed during the last 24 hours, grs. 13260.

Oct. 3rd, 11 o'clock A. M. Pulse 62; respiration 14. Temperature of atmosphere, 76° F.; temp. of hand, 98; temp. under tongue, 99.25. Reaction of saliva acid; urine of a deep orange color—heavy, light-yellow deposit after standing a few hours. The acid has greatly diminished—re-action alkaline after standing a few hours. Amount passed during the last 24 hours, grs.

15330; sp. gr. 1022. Uric acid in grs. 15330 of urine, grs. 10.5. Uric acid in 1000 parts of urine, 0.684. Bowels have not been moved for four days.

R. Calomel, grs. viij.; sulph. of quinia, grs. v. Castor oil in four hours. Continue stimulants and infusion of snake-root.

Oct. 4th. Dressed and walking about the ward. Tongue, moist and soft, and only a little redder at the tip than usual. Pulse 60; respiration 12. Blister raw, and slow in healing. Urine orange colored, re-action slightly acid, when first voided, but rapidly changes to the alkaline, and lets fall a heavy deposit after standing a few hours.

R. Quassia and soda. Full diet.

Oct. 5th. Urine, orange colored; sp. gr. 1024. Heavy deposit—reaction of saliva very slightly acid.

Oct. 8th. Entirely restored to health. Pulse 48; respiration 14. Temperature of atmosphere, 73° F.; temp. of hand, 97; temp. under tongue, 99.5.

CONCLUSIONS.

(1). Although the pulse of this patient, at first sight, did not appear to have been much accelerated, when compared with the action of the pulse in other cases of malarial fever, still it was, we think, greatly accelerated. The pulse was unusually slow in health, only 48 to the minute. The respiration was also very slow in health, 14 to the minute. The temperature of the surface was not greatly elevated.

(2). Aside from the cerebral symptoms, there was nothing to alarm the practitioner, except the state of the tongue. The prominent symptoms, as in the previous fatal case, from the same vessel, were connected with the brain.

(3). Active purgation and alterative doses of calomel, so far from benefiting, were, as was conclusively demonstrated, by careful examinations and analyses of all his symptoms, working in conjunction with the malarial poison, and rapidly bringing on a fatal termination. Stimulants, blisters, sinapisms, and large doses of sulphate of quinia, administered without any regard to the state of the tongue and brain, so far from increasing the cerebral disturbance, diminished it rapidly. Under the vigorous use of these active remedies, the dry, red tongue became moist, soft and pale—the pulse was diminished in frequency, and became fuller—the dry skin became moist, and the delirium entirely disappeared.

These facts demonstrate conclusively that the action of the malarial poison is one of depression and not of inflammation.

CASE XLIII.—American seaman, from United States revenue cutter, companion of the two former cases, (xli. and xlii.) Ta-

ken sick at the same time. Age 23; brown hair, dark eyes, florid complexion; height 5 feet 7 inches; weight 155 lbs.; large chest, and stout muscular limbs.

September 25th, 1857. Was taken sick two days ago. His attack commenced with a prolonged chilly feeling, followed, in the course of six hours, with fever. Has fever now.

R. Calomel, grs. x.; Sulphate of quinia, grs. v.

Sept. 26th. Medicine operated freely. Complains of pain in his head. Tongue coated with fur; pain upon pressure of epigastrium. Pulse 88.

R. Apply mustard over epigastric region; infusion of red pepper.

Sept. 27th. Much better; febrile excitement much less. Complains of slight pains in his bones and bowels.

R. Sulph. of quinia, grs. v. every three hours, up to grs. xv.; infusion of Virginia snake-root.

Sept. 28th. Has no fever. Give 15 more grains of sulph. of quinia.

Sept. 29th, 11 o'clock A.M. Much better.

7 o'clock P.M. Within the last two hours has taken a change for the worse. Intellect wandering. Complains of great pain in his head. Pulse 92, feeble; respiration 32. Reaction of saliva intensely acid. The secretions of the mucous membrane of the mouth are almost entirely dried up, and it is with difficulty that sufficient saliva is obtained to moisten the litmus paper. Tongue, where the fur is absent, very red—it is dry, harsh, and rough to the touch. Pain upon pressure of the epigastrium. Head and trunk hot, and extremities cool.

R. Sinapisms to extremities and epigastric region; cut-cups to temples and back of head.

R. Sulphate of quinia, grs. viij. every three hours, up to grs. xl. Administer brandy and infusion of Virg. snake-root, freely. Diet, brandy and arrow-root.

Sept. 30th, 11 o'clock A.M. The mustards and stimulants have aroused the intellect, and rendered the dry, parched tongue moist, and diminished the frequency of the pulse and respiration. Pulse 68, rather feeble; respiration 22. Temperature of atmosphere, 80° F.; temp. of hand, 95.5; temp. under tongue, 97. Skin slightly moist and cool to the touch; face much flushed; surface of head cool, although from its congested, florid, red appearance, we would judge it to be hot. The temperature of the trunk and extremities is below the normal standard, notwithstanding that the pulse and respiration are much more rapid than in health. During the night he was delirious, and it was difficult to keep him in bed.

The blood from the cut-cups appeared to be normal under the microscope, and showed no signs of inflammation.

R. Continue stimulants and sulph. of quinia. Diet, milk-punch, brandy and arrow-root.

Oct. 1st, 11 o'clock A. M. Continues to improve under the action of the stimulants and sulphate of quinia. Tongue moist and softer. Pulse 66, rather feeble; respiration 20. Temperature of atmosphere, 71.5° F.; temp. of hand, 95; temp. under tongue, 97.15. Complains of weakness. Rested well during the night, and has had no pain in his head since the application of the cut-cups. Urine orange colored—sp. gr. 1013.

R. Continue stimulants and nutritious diet.

Oct. 2nd, 12 o'clock M. Tongue moist and clean, redder than normal. Pulse 62, regular, full and soft; respiration 20. Temperature of atmosphere, 76.5° F.; temp. of hand, 98; temp. under tongue, 99. Reaction of saliva, decidedly acid. Urine, orange colored and clear, reaction decidedly acid—sp. gr. 1014. Amount excreted during the last 24 hours, grs. 21,210.

R. Continue. Full diet.

Oct. 3rd. Face not so much flushed. Tongue clean, moist, soft, and approaching the usual color. Respiration 19. Temperature of atmosphere, 76.5° F.; temp. of hand, 96.5; temp. under tongue, 98.8. Reaction of saliva decidedly acid.

Color of urine, reddish orange; after standing several hours, let fall a light yellow deposit—sp. gr. 1017.

R. Continue stimulants and infusion of Virg. snake-root tea.

Oct. 4th, 12 o'clock M. Up, and walking about the ward. Urine, orange colored—the change from the acid to the alkaline reaction took place in the course of a few hours, and a heavy deposit was thrown down. Amount of urine passed during the last 24 hours, grs. 15,270—sp. gr. 1018. Pulse 54, slow and full; respiration 14.

R. Quassia and soda.

Oct. 5th, 11 o'clock A. M. Tongue, pulse, respiration and skin normal. Color of urine, light orange—sp. gr. 1020—reaction of saliva acid.

Oct. 9th. Entirely restored to health. Pulse 43; respiration 15. Temperature of atmosphere, 72° F.; temp. of hand, 96.5; temp. under tongue, 99.75.

CASE XLIV.—Irish seaman, from United States revenue cutter—age 19: height 5 feet 7 $\frac{1}{4}$ inches; weight 145 lbs.; light brown hair, grey eyes, fair complexion.

October 4th. Was taken sick four days ago—his attack was two days later than that of his companions (cases xl., xli., xlii., and xliii.). Has had no chill, but has suffered with pain and dizziness in the head; face flushed. Pulse 100; respiration 20. Tongue coated with yellow fur, tip and edges red; papillæ enlarged. No tenderness of epigastrium. Skin hot.

R. Calomel, grs. xij.; sulph. of quinia, grs. vi. Mix, and administer immediately, and follow with castor oil in four hours. As soon as the medicine has commenced to act, give sulph. of quinia, grs. v. every three hours, up to grs. xx.

Oct. 5th. Much better. Head relieved. Skin in a profuse perspiration. Reaction of sweat and saliva decidedly acid. Pulse 104. Skin hot, but moist and relaxed. Respiration 24, full, thoracic. No tenderness upon pressure of epigastrium. Tongue redder and dryer than normal. Medicine operated four times. Has taken xxx. grs. of the sulphate of quinia.

R. As soon as fever remits, give brandy and infusion of Virginia snake-root.

Oct. 6th. Continues to improve. Pulse 96. Skin warm, but moist. Continue stimulants.

The febrile excitement subsided and there was no return, and this patient was discharged a few days afterwards.

CASES XLV. and XLVI.—Two stout, athletic young seamen, from the United States revenue cutter, who contracted their sickness simultaneously with the four seamen mentioned in cases xli., xlii., xliii. and xlv.

One suffered with a slight attack of intermittent fever, and remained in the hospital only a few days.

The other suffered also with intermittent fever, but of a severer type.

In this case, the chill was well marked, by a hot trunk and cold extremities, and great disturbance of the sympathetic and cerebro-spinal nervous systems, and in the succeeding stage of febrile excitement, the pulse was full and strong, the respiration accelerated and the animal temperature correspondingly elevated, and in the intermission there was a marked subsidence of the febrile excitement.

At first sight, the severe chill—the full, bounding pulse—the thoracic respiration, and the hot and parched skin, would excite the belief that the patient was in danger. Such an opinion would have been erroneous, for these phenomena signified powers of resistance.

This case yielded far more readily to the action of the sulph. of quinia than the former cases from the cutter.

Conclusions drawn from an examination, analysis and comparison of these six cases of malarial fever, occurring in the crew of the United States revenue cutter.

(1). Whilst the revenue cutter was cruising about the mouth of the Savannah river, the crew remained healthy; but as soon as they were exposed to the exhalations of the low grounds and marshes, they were attacked by malarial fever. This fact de-

monstrates that a special cause resided in a special locality, capable of producing a special disease.

(2). There was a remarkable uniformity in the symptoms of four out of the six young men from the cutter who were attacked with fever.

In these cases, the malarial poison appeared to act either directly or secondarily, powerfully upon the nervous centres of the sympathetic and cerebro-spinal systems.

The action of the malarial poison was depressing, rather than inflammatory. Whatever diminished the forces, acted in conjunction with the malarial poison. Whatever stimulated the nervous system, excited the action of the heart, excited the capillary circulation, excited and increased the chemical changes of the nutritive fluids and organs and tissues, acted directly antagonistic to the action and effects of the malarial poison.

(3). A rapid pulse, rapid respiration and low temperature, and wandering intellect, are always dangerous symptoms, which signify a perversion of the functions, an interference with the normal chemical actions, which generate the forces, and an unconditional surrender to the fatal poison.

(4). A rapid, full pulse, accelerated respiration, and a corresponding development of heat, are favorable symptoms, and signify an effort on the part of nature to get rid of the poison. *The fever is not the disease—it is an effect of the action of the malarial poison upon the living organism, and signifies a power of resistance.*

(5). The differences in the symptoms of these cases show that, men living on the same small vessel, and exposed in an equal manner, will not suffer alike. The effects of the poison will depend, in great measure, upon the nature of their vital and physical endowments.

(To be continued.)

ARTICLE V.

Surgical and Medico-legal History of a Case of Comminuted Fracture of the Fore-arm, just above the Wrist-joint, resulting in Anchylosis and Deformity. By W. S. LIGHTFOOT, M. D., of Macon, Ga.

[REMARKS.—We regard the following report a very interesting and important one to Practitioners. It has become, of late years, a great evil to our Profession that, on the slightest pretexts, its members may be mulcted in large amounts, in surgical cases, under the charge of mal-practice. It has heretofore

been more sorely felt by the Profession in the northern than in southern cities, and the record of unjust and sometimes almost ruinous verdicts, gained against Practitioners, found occasionally in the journals of that region, is well calculated to attract the attention of the Profession, and to make them feel called upon to fix the principles upon which all such cases are to be hereafter equitably decided. Although the valuable reports of Prof. F. H. Hamilton, of Buffalo, to the American Medical Association,* "on Deformities after Fractures," must ever be resorted to, as a tower of defence, in such cases, still the history of others will serve to make testimony yet more abundant, and settle more firmly the principles which should prevail in these adjudications.—EDTS. S. M. & S. JOUR.]

February 12th, 1855. John J. Kah, a German by birth—a hireling on the South-western Railroad—whilst pushing a car ahead of him, another car came up behind him, unobserved, and struck his left elbow while flexed, driving his hand against the front car, fracturing the fore-arm, just above the wrist-joint. Called to see him about one hour after accident. Found the fracture as above stated: in addition to which I also found the end of the bones which were broken off, together with the bones of the carpus, so much crushed as to induce me, when examining the parts, to remark that they felt like a bag of little stones. Surrounding soft parts much damaged. After examination of fracture, I remarked to Kah, that the French surgeons would in all probability amputate the limb; but I would try to save the hand and arm. He said, in his agony, if I could not straighten the arm, not to touch it. I told him to do the hallooing, and I would do the work. Adjusted the parts as well as I could. Applied the small compresses, long splints and roller bandages. Then directed the bandage to be kept wet with cold water; and should there be much swelling and pain, to loosen the bandage a little.

Left patient in charge of a prudent and experienced nurse. On the thirteenth day thereafter, I saw him again at the request of Capt. W. P. Anderson, the nurse. Found the dressing in a filthy condition; the fracture in proper condition. Cleansed the parts; applied fresh dressings—having the arm well supported during the removal, and re-application of the dressings. Some

* See Transactions, vol. x., 1857.

time after my second visit, and whilst the arm was in sling, he had a row with his wife, and also a fight with his brother-in-law. Saw Kah no more until the fifteenth of June thereafter, when called to see his son, whom I visited several times. Heard no complaint from the arm during my visits.

May 1856. Kah commenced suit against me for malpractice, claiming damage to the amount of *ten thousand dollars*.

WHITTLE and TRACY, for Plaintiff.

POE and GRIER, for Defence.

JOHN K. KAH,	}	<i>Case for Malpractice.</i>
<i>vs.</i>		
WILLIAM S. LIGHTFOOT.		

Came off at November term, 1858, in Bibb Superior Court.

EVIDENCE BY PLAINTIFF.

Interrogatories of Susan Arnold and Margaret Johnson read.

William P. Anderson, testified from the stand.—Saw Kah on the day of the fracture, about the first of February, 1855. Doct. Lightfoot was sent for, and came immediately. Kah was suffering great pain. He asked him if he could set it? He said he thought he could. Kah said, I would rather it had been my head, if it can't be made straight. Kah asked if it would hurt much. Dr. L. said, you do the halloing, and we will do the work. Dr. L. had some bags, or cushions, stuffed with meal-bran, as he said, to keep the bones apart. Dr. L. said, while he was setting the arm that it felt like a bag of little rocks. Dr. L. told Kah if it swelled to loosen the bandage. Dr. L. asked witness to see Kah every day and attend to it. Nothing was to be done except to keep the bandage wet with cold water. On the 14th day, Kah complained so much, he looked at the arm—it was mattering, smelt bad—bags pressed into the flesh. Dr. L. was sent for, and came promptly. When he came, he said oh dear! it ought to have been attended to sooner. Thought he meant that he, the doctor, ought to have attended to it. Dr. L. had been the physician of Kah before—know that he once went to see little boy with a nail in his foot—don't know how often he saw boy. Kah was a cabinet maker—worked at Railroad depot. Dr. L. said nothing about the case being a pauper case. Dr. L. did not see him again for fourteen days, so far as witness knows. Skin not broken at first.

Cross.—Dr. L. had once before seen witness in a case of surgery. Witness is a good nurse. Witness wanted to send for Dr. L. before he came the second time and Kah refused. He did his best to get him to send for Dr. L., but he would not let it be done. The arm did not mortify—the flesh-wound healed—the arm looked straight when it was first set. Can't say whether it was straight or not at the second visit; but the bags looked in the same condition as when set; and thinks the arm was in same position. When Kah said, doctor, if you can't set it straight, don't touch it—he meant the then condition; that is, if he could not set it right. After the second visit, witness did not see him often. Kah told witness he got his arm hurt, while pushing a car; another came up and struck his elbow, driving it up. Did not observe the arm to be crooked until he commenced using it. It grew *crooked* and *crooked* as he used it. Kah was walking about the house. Don't know whether or not he could have walked to the doctor's office.

Susan Arnold, Sworn.—Answers, I know the parties. I was at the setting of arm. Kah asked the doctor if he thought both bones broken. The doctor replied that he did not think them both broken. Kah said, if you can't make my arm straight don't touch it; for I would rather have my head cut off, than have my arm crooked. The doctor replied, never mind, you do the hallooing, and we will do the work; then called William P. Anderson and William Dillard, to assist him in holding Kah's arm. The doctor directed Kah to apply cold water to his arm, if it pained him before he came again. I did not live in the house with Kah's family. I lived about three-quarters of a mile from Kah's. It was about two weeks from the time his arm was broken and first bandaged, before I saw it again opened, which was done by the doctor. Dr. L. had been Kah's physician two or three years. I had known of Kah's paying him one or more bills; and he had been in the habit when sent for to see a case in the family, of continuing to come as long as he thought it necessary. I thought it much neglected from seeing the matter run through the bandages.

Cross.—I live about three-quarters of a mile from Kah. Was present when the doctor came to see Kah the first time—did not hear the doctor say that Kah's arm felt like a bag of

stones—did not hear him say that Kah would be likely to have a stiff-joint—cannot say whether the arm was correctly set, as I am no doctor—did not hear the doctor direct Kah to loosen the bandage in case the arm became painful and swelled; but I did hear him give directions not to have it moved, and if it pained him to have it wet with cold water. Never heard him say that Dr. L. did not do his duty by him.

Margaret Johnson, Sworn.—Says, I was present when Dr. Lightfoot first bandaged Kah's arm. He asked the doctor if he could set his arm straight, if not, not to touch it, for he would rather have his head cut off than have it crooked. The doctor said, never mind, you do the hallooing and we will do the work. He directed him to keep the bandage wet with cold water, and not remove it until he came back. The doctor's instructions were fully carried out during his absence. It was fourteen days before the doctor came back to see Kah, and was then sent for. When the doctor took off the bandage, he said it ought to have been attended to sooner. The cords or leaders on his wrist were entirely rotten or eaten off, and as green as grass, as his arm had been bandaged so close, by having it laid in a little bag filled with corn meal, and another one laid over it and kept confined. The doctor said, the little bags were to keep the bones apart and prevent their growing together. I lived in the house with Kah's family during the time. Saw his arm every day after the doctor came the second time—saw it every time it was dressed, and assisted. Kah conducted himself properly while his arm was hurt; was not drunk during the time. I was present all the time. Mr. W. O. Hurt was not at Kah's during the time, to my knowledge. Kah had no difficulty with his wife whilst his arm was hurt. I know the doctor did not come the second time until fourteen or fifteen days, and did not come then, until sent for. Found the arm in a dreadful condition.

Cross.—I lived with Kah's family. Was present when Dr. L. set his arm. Did not hear the doctor tell Kah that his arm felt like a bag of small stones. Was present all the while, and did not hear the doctor tell Kah that in all probability he would have a stiff wrist. I cannot say whether the arm was set or not. I am no doctor. The doctor did not direct Kah to have the bandage loosed if the arm should swell and become painful;

but told him to let it remain as it was until he returned, except to keep it wet with cold water. Kah and his wife did not have a difficulty while the arm was bandaged. Kah did not drink any ardent spirits while his arm was hurt. William P. Anderson did frequently see Kah in the absence of the doctor. Anderson did advise Kah to send for the doctor before he came the second time.

William Dillard, Sworn.—Maj. Anderson was present when Dr. Lightfoot set the arm. He set it straight; it was greatly crushed, felt like a bag of rocks; heard the bones as the arm was moved. The little bags used were stuffed with bran, and were about the size of witnesses finger.

Dr. Hammond, Sworn.—He examined the arm; thinks it now has half the use of sound arm. Can't say whether the arm could have been made better, if properly attended to. Injuries of the wrist are the most difficult to heal without deformity. Any motion, for thirty to sixty days, will alter the condition. Heard Anderson sworn. Thinks the arm was set and dressed right; can't say it could have been better; thinks he would see a case of the sort once in five or six days, unless he could leave him in the hands of such a nurse as Maj. Anderson. This is my practice. If the bandage had been removed sooner, perhaps there would have been less sloughing.

Cross.—The condition of the arm, shows that great violence was done to it. The joint was greatly damaged; in injuries of wrist deformity is the rule, and not the exception. In injuries of the kind, the exudation of pus or matter, is the result of an effort of nature to restore the injured part. No fault of the doctor, up to the fourteenth day, according to Maj. Anderson's evidence to produce the deformity. Thinks it doubtful, whether it could have been cured better. The rule is, not touch the bandage, so long as there is no pain.

Dr. Thompson, (Reformer) Sworn.—Heard Anderson's testimony, and saw Kah's arm. The arm might have been made better. Doubts whether it is as good as half a hand to a cabinet maker. Thinks Dr. L. ought to have seen Kah the second day, and ought to have seen him every day. My impression is, that the arm would not have been so bad, if he had been seen and attended to properly by Dr. L. The general rule is, that the

joint is stiff. Kah's is both stiff and crooked. More care the better.

Cross.—Stiffness and deformity are the rule in injuries done the wrist. A visit, if the arm is straight and not painful, is useless to the patient.

Dr. Fitzgerald, Sworn.—Looked at the arm; should have seen the case in two or three days; should have been unwilling to have taken the case, unless he could have seen the patient three or four times in the first two weeks. In pauper cases, he makes appointments for patients to come to his office to see him. In fractures near the wrist-joint or in it, deformity most always is the result. Where so many bones meet, great deformity is the result. Thinks the deformity very great in Kah's arm; don't know that it was the result of the injury; but thinks the arm might have been better cured.

Cross.—In cases of this kind, it is bad surgery to disturb the dressings while the arm is straight and not much swollen. It is an exception to rule when there is no deformity. If I had a good nurse, one in whom I had confidence, I would not visit the patient so often. If, at the end of fourteen days, I had found the limb straight and not swollen, I should have considered the patient uninjured. External inflammation and exuding of pus, does not injure the limb it rather aids the cure. If the limb becomes offensive, more or less unnecessary pain would have ensued.

Rebuttal.—Don't see any occasion for so great deformity, but don't know, as he did not see the injury.

Dr. H. K. Green, Sworn.—Two years ago, may-be not so long, Kah called on witness to ask advice. Surgeons differ as to when they should visit the patient after the injury, as described. Witness would have seen patient next day—would have seen him once a week. Custom of surgeons here not known, if nothing is said about time when patient is to be visited. Thinks it usual to have an understanding with him. Impossible to tell whether the limb could have been cured better. If patient should not do his duty, no skill on the part of the surgeon could benefit him. Can't account for such deformity. When the bones are shattered, it defies the best surgery to prevent deformity. A case such as witness Anderson describes this to have

been, is a most unpromising one. Such case could not be expected to be better cured.

Dr. Cox, (Reformer) Sworn.—If patient had been injured as described, it would have required close care. Would have seen patient every day—proper care and dilligence required it. Thinks it would have been improper to have let fourteen days elapse without seeing patient. Thinks the case not so good as he would have expected. When he has a case, he either tells patient not to expect him, or he visits him when necessary.

Cross.—In injuries of this kind, if the bones are properly coaptated, no great deformity necessarily results. Practice is, let the dressings alone, so long as the limb is straight. The worse the injury, the longer it requires for the bones to unite. In injuries of the wrist like this, deformity is apt to ensue. Book* is recognised by a respectable body of surgeons as being one of authority. Thinks the system of surgery wrong. It is not the science of life.

DEFENDANT INTRODUCED.

Mrs. McDarnold, who being Sworn.—Knows Mrs. S. Arnold and Mrs. M. Johnson, who testified in this case. Knows their general character; has known them for twenty years; would not believe them on their oath in a court of justice. Has seen Margaret Johnson drunk. Has seen her in the unlawful embraces of a negro. Known Susan Arnold to keep a house of *ill-fame*. This was in 1833 or 34. Kah's wife is said to be daughter of Susan Arnold. Witness is a relative of President Jefferson.

Doctor Mettauer, Sworn.—Saw the hand and arm; heard Anderson's testimony. The treatment of the arm by Dr. L. was perfectly correct under the circumstances as sworn to by witness Anderson. It would not have been necessary to see the patient for two or three weeks. If the nurse had asked the patient to send for the doctor and he had refused, the result would be his own fault. If any thing had gone on wrong, the pain would have been so great, that he would not have been able to bear it. In pushing a car, the hand would have been lower than the elbow, consequently, the tendons must be injured. If so, no surgery could have made it better. If the injury had been such

* Transactions of the American Medical Association.

as described, he is greatly surprised at so good a cure. The muscles must have been cut or injured.

Cross.—Surprised at the good cure, after knowing the nature of the injury. The bandage should not have been removed for two or three weeks. Nature was doing her work. Sloughing was a necessary consequence, no injury arose to patient from it. Would not have gone to see him in two weeks.

Rebuttal.—No neglect could have produced such a result. It must have arisen from the injury of the muscles and tendons. No sloughing or mattering of the arm could have altered the result at all. Book shown is good authority. Every case in it does not meet my approbation.

Dr. Harrison, Sworn.—Has examined the arm—heard Anderson's testimony. From the nature of the injury, deformity must have issued. The result is owing to the cutting and other injuries to muscles and tendons. When such wounds are dressed, it is wrong to disturb them while the parts are straight. Sloughing is of no moment. If I had left the patient in such a nurse's hands as Capt. Anderson, I would not have seen the patient in two or three weeks.

Cross.—Has written several pieces in the paper signed "Bandage". From nature of the injury, it would have been impossible to have avoided deformity as it exists. It must have arisen from the injuries to the tendons and muscles. On the 14th day, the arm was dressed, and could be cleansed and dressed without injury. No neglect of the doctor could have caused such deformity.

Wm. O. Hurt, Sworn.—Knows plaintiff; he was not a good cabinet workman—making nothing but a dollar per day—nothing but a cobbler. Saw him some time after the injury on Bridge-row chasing his wife. They were not in conflict, but they were in an affray—his arm in a sling.

Cross.—Kah was not worth more than \$1 a day. It was about the third week after the injury, that I saw him chasing his wife.

Ludwick, Sworn.—Had a fight with Kah, whilst his arm was in the sling. He knocked me with his well arm.

Capt. Anderson, recalled.—Kah removed to Bridge-row 14th March—injury, 12th February. Only saw Kah occasionally

after he went to Bridge-row. Did not see the fight with Ludwick. Knows Magaret Johnson and Susan Arnold.

Dr. Thompson, recalled.—Thinks Kah was good for his contracts at the time of injury. He had money in his hands belonging to Kah.

ANSWERS TO INTERROGATORIES.

Dr. J. A. Eve, of Augusta, Ga.—Says the arm ought not to have been dressed again, until the dressings had become deranged or uncomfortable to the patient, without reference to the number of days. The loss of the arm, I think, would not be a probable result. Ankylosis inevitable, and more or less deformity almost certain. The responsibility should be thrown on the patient under such circumstances. Under the very best management, most probably, there would be more or less deformity.

* *Dr. L. A. Dugas, Augusta, Ga.*—He says, I am a practising physician and surgeon. The dressing of fractures, should be re-adjusted whenever it becomes deranged or painful. There is therefore no specified period for the removal of dressings. Such a fracture would not usually cause the loss of the limb, but would most probably result in more or less deformity. I do not think that the attending physician should be held responsible for the misconduct of the patient. Injuries of the wrist-joint, complicated with fractures, are very often attended with deformity, under the best possible management.

Dr. H. F. Campbell, Augusta, Ga.—He is a practising physician and surgeon. When a fractured limb has been dressed, I do not contemplate the removal of the bandages so long as they remain properly adjusted and comfortable to the patient. Should inflammation and swelling ensue, it becomes necessary to remove the dressings. The removal of the bandage is considered rather as an unpleasant necessity which may arise, than as a part of the ordinary attention to be rendered in the treatment of a fracture.

The phrase, "setting a bone" implies *permanently* maintaining the adjustment till reunion has taken place, provided, pain, inflammation or derangement of dressing does not render surgical interference actually necessary. The dressings are only removed, when such removal is unavoidable. There is no fixed

time at which the dressings should be removed. In extensive fractures, however, we delay disturbance of the limb as long as possible, in order to allow full time for union to be effected. Union progresses very slowly in comminuted fractures, and the *first* dressing, after the setting, should be delayed as long as possible. From four to five weeks, if the swelling of the limb or the derangement of the dressings does not render their removal necessary. A fracture of the kind described, need not necessarily cause amputation, but deformity and impaired use are very common results in such cases. The responsibility should be upon the patient in such a case. Should the patient neglect to inform the physician even, of any *accident* which may have befallen the limb, so as to give him the opportunity of remedying it, the physician, in my opinion, is free from responsibility for any unfortunate result; much more so, if the patient should engage in fights or in any other exercise of the limb, which is calculated to destroy the benefit of the treatment.

Dr. Robert Campbell, of Augusta, Ga.—If the arm remained in proper position, as it was placed, and was doing well, it should not be disturbed at all, unless there was a flesh wound which might require washing and dressing. There is generally no necessity for disturbing a fractured limb after it has been regularly set with splints and done up. If care has been taken by the patient or his attendants (i. e., his nurse or friends about him,) to prevent the apparatus from displacement, unless sometimes in case of swelling; for when a limb is *set*, it is presumed that the splints are capable of keeping it in the position in which it is placed, if not interfered with. It would be necessary to examine the apparatus to see that it had not been deranged, before the union between the ends of the bone had become consolidated or changed into bone. This consolidation takes place sooner in some bones, and in some *portions* of bones than in others, and to allow this variation, I would say, that from the 10th to the 15th day, a set fracture might safely remain unexamined. I do not think that union takes place as rapidly at the ends as in the centre of the shaft of the long bones. If the limb was in the condition described in the interrogatory, I would hope to avoid amputation, probably, unless there was "compound fracture," that is, a flesh wound communicating with the

fracture, and injuring the muscles, nerves, &c.; but I consider stiffness of the joint almost inevitable with so extensive an injury to the bones of which that joint is composed; and I believe that the more complicated a fracture, (i. e., the greater the number of pieces the bones are divided into) the greater are the chances of deformity. The patient might have kept the arm in the sling unnecessarily long. I do not think it safe to use a limb after fracture, for five or six weeks; and even then, I believe, there would be danger in subjecting it to any violent use. If the patient should imprudently subject his limbs prematurely (or before that time) to such dangers as those over which his physician could have no control, (as fights, &c.,) I think the responsibility for the result should most unquestionably rest with him, the patient. I believe that injuries involving the wrist-joint, are very apt to result in deformity and stiffness, principally on account of the great number of bones which enter into the construction of that joint.

Dr. Paul F. Eve, of Nashville, Tenn.—Says that he is a practising surgeon, and most conversant with surgery, and has been engaged in teaching it the quarter of a century. Bones commenced to unite about the ninth day, and if the patient suffers none, even if the fracture has not been reduced, all the surgeon has to do at first, is to prevent the development of unfavorable symptoms. It is best, however, to set the limb at once, which when done, a second visit may be deferred for from eight to twelve days; provided the surgeon is to be apprized if the patient suffers, or the apparatus applied becomes deranged. The definite answer to the second interrogatory, is, that a fracture ought to be seen under all ordinary circumstances about the ninth day. If he had put up a limb, injured as this one was, and had given his views to the patient as to the probable result—namely, amputation—he would not return to see it at all, without being sent for; for he (the patient) would have received his (deponent's,) opinion, and he had a right to act upon it according to his own judgment. It was the patient's duty to let the surgeon know when his services, if at all, were required. When the patient is in limited circumstances, or able to be up and about, as the services rendered are gratuitous, he certainly ought to come to the doctor's office to have his fracture re-examined or the apparatus re-

adjusted. It certainly is his place to let it be known, should he suffer pain or observe anything wrong about the fractured parts. The limb properly set, may never again be disturbed during the whole course of treatment. Indeed, this is the best practice in fractures.

The prognosis in such cases is very unfavorable. An injury of the character described, generally requires amputation; it could not be cured without deformity and loss of motion. A perfect fore-arm and hand in an ordinary fracture, at or near the wrist-joint, is an exception, and not the rule. Deformity is the result. He is surprised that the limb was saved, and the patient did not die of mortification or lock-jaw.

After being charged by his Honor, Judge Henry G. Lamar, the jury retired and returned a verdict *for defendant*.

On the Theory of Inflammation. By JAMES HINTON, M.R.C.S.

INFLAMMATION, being the most frequent form of disturbance in the animal body, has received from pathologists the largest amount of study. By observation and experiment its phenomena have been traced from first to last. Yet the word conveys to us still but an indefinite meaning; the relation which the changes implied by it bear to each other has not been distinctly grasped. The senses have contributed their part, but the mental element is defective. We still wait for that true knowledge which consists in the recognition of order and mutual dependence; and our efforts must continue until we are able to place before our intellectual sense the observed phenomena in a rational and necessary sequence.

Nor is there in such an attempt anything unreasonable. The links of necessary causation must exist, and a right knowledge of them must be simpler and more conformable to reason than hypothesis constructed in ignorance. We seek the relation in which certain observed processes stand to each other, the rational bond between them. In a word, we require a dynamic view of inflammation. Some progress in this direction has indeed been made in the proposition now so generally held, that inflammation is "an altered nutrition." Unquestionably this is so far good. It recognises in inflammation a *process*, and excludes therefore the idea, which is so apt to suggest itself to us in relation to all that is not understood, of a specific entity. But this expression can hardly be said to advance us far on the road to a positive knowledge. If we may, on the one hand, affirm it to

be true, must we not, on the other, admit it to be a truism? What is the amount of information it conveys to us which we did not previously possess? It tells us that inflammation is a diseased or perverted state of life, but are we not apt to think that it tells us much more? Does not that unknown term "nutrition" stand in our thoughts for some definite addition to our knowledge? Does it present itself to us so clearly as it should do that if the meaning of nutrition be so large, and we know so little of its nature, it is but a form of words to say that inflammation is an altered state of it?

All writers on inflammation have recognised in it processes of two opposite characters and tendencies. Mr. Paget classifies them into those that are productive, and those that are destructive, and the distinction is broadly obvious. Into the ordinary conception of nutrition itself indeed both these processes enter; it is regarded as including two opposite actions of series of changes—growth and decay. But this oppositeness of action is ever more marked in inflammation than in health. In an inflamed part we may see a structure decomposing, not in invisible molecules, or by mere interstitial removal of its elements, by dying in large masses, while all around it the evidences of *vital* action, of the impetus towards growth, are seen in more than ordinary energy. Is there any intimate relation between these opposite actions; may inflammation consist in either alone; or, if both be essential, what is their connexion?

That an increase of both processes, the decay and the vital action, is necessary to constitute inflammation, appears when we consider the distinctive characters of that affection. It differs from mere increased decay, as primary gangrene or atrophy, on the one hand; and from mere increase of vital action—hypertrophy, repair, or development—upon the other. Its peculiar characters involve at once an abnormal increase of destruction and of growth.

If, then, both these changes be essential to inflammation, can there be traced between them any other connexion than that of co-existence? Are they related as cause and effects? What is the starting-point of the morbid process?

I answer: they are related as cause and effect; the increased decomposition is the starting-point; the increased vital action is secondary and dependent.

The first proof of this position is found in the nature of the causes by which inflammation is induced. All of these, it has often been remarked, are such as clearly tend to lower the vital power or to produce actual destruction of the parts on which they act. In every case in which the origin of inflammation is distinctly traced, the starting-point is found to be in fact an anti-vital change.

And this practical evidence is reinforced by the most cogent theoretical considerations. Can we represent to our thoughts any clear idea of a primary abnormal increase of the *vital* or formative action that should be inseparable, as inflammation is, from a concurrent increase of decay? And this increased decay, not such as attends and is subservient to increased growth, but of so disproportionate an amount as almost always to result in a lessened vitality of the affected part. Is it not a contradiction that an approximation to death should be the result of an increased life? It is not inquired now how such a primary increase of the formative action should arise, and especially in such circumstances of debility and depression as most favour inflammation, because that subject will be considered hereafter in tracing the relation between inflammation and adventitious growths; but there is a direct bearing on the question in the fact that inflammation arises in tumours then first when decay begins in them. It is incompatible with the increased formative action which produces them; it is a constant attendant on their disintegration.

Connecting thus the two series of changes, destructive and formative, as cause and effect, both may be understood. For the increased formative action some cause is demanded, some additional and local acting force to which it may be ascribed. This demand is fulfilled by the increased decomposition, which is a known source of force, and which is itself sufficiently accounted for by the tendency of all organized substances to undergo decay. The abnormal decomposition is referable to known and sufficient causes, and itself supplies a cause for the abnormally increased activity of the formative process. For not only is decomposition of the tissues (a change belonging to the class of chemical actions) a recognised source of *force* as such, and thus capable of acting as a stimulus upon the vital activity of adjacent tissues, but it is shown by well-known facts to be immediately concerned in the production of the formative action. Such facts are the liquefaction of certain portions of the embryo as conditions for the development of other portions; the decomposition of the food which forms the first stage of digestion; and especially the immediate dependence of the nutrition of any organ upon its functional activity.

Inflammation indeed stands thus but as an exaggerated instance of this normal relation of decomposition and growth: it is strictly correlated to the ordinary processes of life; and abnormal or excessive functional or decomposing change, producing a similar excess of the reparative action. It may seem strange indeed how so natural an interpretation of the facts should have escaped the sagacity of those observers who have especially noticed the intimate connexion between functional activity and inflam-

mation, and who have remarked that excessive function of an organ leads to or becomes inflammatory action by such continuous gradation that the line cannot be drawn between them.

Inflammation is excessive function, with or without qualitative perversions: *common* in the absence of such perversions, *specific* when they exist. The term "function" is here used to signify that disintegrating change of which the functional activity is an indication. In attributing inflammation to an excess in this respect, nothing is assumed but a known tendency, the chemical affinities, which may always be presumed to act when not prevented by opposing force, or absence of the requisite conditions; and which are therefore necessarily brought into play by all that diminishes the perfection of the vital state. From the operation of these forces all the main phenomena of inflammation may be traced in a consequent series, and no recourse is necessary, as upon the hypothesis of a directly increased vital action, to mysterious, or at least to unknown, powers.

The twofold nature of the processes concerned in inflammation has been one chief source of the difficulty that has invested the subject; these processes not being seen in their true relation, nor recognised as corresponding, in respect to that relation, to the healthy life. Two opposite views have been manifested by different writers, each with great support from observation, yet each failing to supply a theory of the affection that could be accepted as complete, or as applicable to all cases. On the one hand is the theory of "increased action;" on the other, that of "debility," or diminished vital force. Each reposing on one portion of the phenomena, with an insufficient recognition of the other, and embarrassed, therefore, instead of aided, by half of the facts with which it had to deal; each capable of a most plausible demonstration, yet leaving in the mind a painful consciousness that the problem was not solved, nor the true nature of the disease revealed. The old theory of increased action* demanded as its complement the modern one of debility or diminished action; but the latter, though more philosophical, equally fails to express the whole truth, and had it existed first, would not less certainly have been supplemented and supplanted by the one whose place it has usurped. If inflammation be in all cases merely diminished action, "depression of the vital force," what is the distinction between sthenic and asthenic inflammations? why should stimuli be in some cases useful, in others injurious? Would not the term, diseases of debility," become then a mere pleonasm, while yet we cannot but feel that it does ex-

* For a most ingenious argument in favour of this view, see a paper by Dr. Cappie, on the Nature of Inflammation: *Edinburgh Medical and Surgical Journal*, No. 81, p. 55.

press an actual and most important distinction between classes of disease which may be both alike inflammatory? And are not greater heat, more rapid circulation, a more vivid sensitiveness, among the indications of a higher life by which the warm-blooded animals are elevated above the cold-blooded? Shall we, to make a theory consistent, permit contradictory interpretations of identical phenomena?

Let me not be misunderstood. I do not deny that inflammation is, in one sense, always a disease of debility; that is, its starting-point is an anti-vital change, it originates in decay; but it includes not less an opposite class of actions, the downward process generates an upward one; decomposition adds intensity to life.

The inflammatory process, then, is an affection primarily due, as all functional processes are, to a disintegrating change which generates a formative process that would not else exist. Thus viewed, inflammation may not only be better understood in itself, but may be brought into definite and intelligible relations with a wide circle of kindred phenomena, mutually giving and receiving light. And first, as to its own nature, it is found to bear a distinct and decisive character. It may be defined. The boundary which separates it alike from health and from other morbid processes is distinct and legible. From health it is distinguished in this, that it is an excess or perversion of the *functional* activity, with its consequences; the decomposition which is normal in function exceeds in inflammation that amount which is compatible with the integrity of the tissues.

And from other local diseases it is clearly marked by these characteristics, of involving a twofold action, and of starting from a decomposition. Tumours may present the twofold action of growth and decay, but the growth in their case has precedence. Hypertrophy presents increased formation only; atrophy, diminished formation, and probably diminished energy of decomposition also. Degeneration properly so called, if agreeing with inflammation in having increased decomposition for its starting-point, differs from it in the absence of the vital reaction; as also does primary gangrene, though the latter is a cause of inflammation in the surrounding parts. It seems to me that the difficulty, on which so much stress has been laid, of indicating precisely lines of demarcation between inflammation and other affections, does not exist if the case be rightly conceived. That various abnormal processes may coexist is true, but there is no necessary confusion among them. Where a local decomposition, carried beyond the bounds of the normal functional activity, has brought in its train an abnormal formative action, in however slight a degree, in whatever condition, of the system, or with

whatever other morbid processes it may be mixed up, there has been inflammation. The relation of the forms of action concerned in the inflammatory process is well seen in the phenomena attending suppuration. For in the formation of pus-cells there appears to be a true growth; and we may conceive that the force arising from the increased decomposition which has previously been operating upon the solid textures, producing in them the heat and redness and swelling which are characteristic of inflammation, operates after the effusion partly on the effused fluid. So that while the dynamical process remains the same, the "symptoms" begin to subside.

Again, if inflammation start from increased decomposition, and all exaggeration of the normal proportion of that process tend to give rise to it, then its extreme frequency is sufficiently accounted for. It must be that inflammation should result from every form of irritation, should complicate every other disease, should arise the more readily the more the vital powers are depressed, should attend all injuries, should affect all structures, should know no limitations of age or circumstance; that it should be, in short, the great disease, and the chief subject of the healing art. The producing cause of inflammation is one that is in constant operation; the tendency to it is involved in the very existence of a living body. Life is a state of constant *tension*, any relaxing of which results of necessity in that excessive decomposition which initiates the inflamed condition. It needs not any extraneous agent to sustain it. As is the spark to gunpowder, or the electric shock to a mixture of oxygen and hydrogen, so is its "exciting cause" to inflammation. Take away, or suspend by any means, the controlling force which holds in organic relations the elements of the living frame, and that anti-vital change takes place, that new arrangement approximating to the inorganic state, which the familiar affinities of those elements tend always to produce. Thus is inflammation, as it were, the sword of Damocles suspended over the head of every living thing. Even as death for ever threatens life; for inflammation involves a partial dying of the part affected, and the reaction of the living frame against it.

Thus it conforms itself to the radical idea of a disease; that of a defect of life. For it was a fatal objection to the old doctrine of increased action, that it assumed, as the essence of a disease, excess of life. All disease deviates from health primarily by defect, it is a sinking, not an elevation; in so far as any organism suffers disease, it has approached to death. Yet, in another sense, there is in inflammation increased action; it is not a mere absence of the vital power, as atrophy perhaps, may be, it is action opposed to it. The organizing process must have been performed, or inflammation cannot be. It is like the running

down of a watch, which implies that it must first have been wound up.

But is it true that decomposing actions in the body do originate, or intensify, actions of an opposite character? or is this only an apparent, and not a real, relation? Has this conception so much basis, in fact, apart from inflammation, that it may legitimately be used as a guide in the theory of that disease? It is a wide question that is thus suggested, but it is one that is fairly within the scope of observation. Virtually, it amounts to this: Is chemical action one among the forces by which the organizing processes are instituted and maintained, under the conditions appropriate to them; or if not itself one of those forces, is it a source of them? For this inquiry the way has been perfectly prepared by the researches which have established the dependence of the organic state upon the operation of force *ab extra*. There is clearly no theoretical or *a priori* reason that it should not be so. For chemical force takes its place in the chain of organic forces, mutually producing and produced. There are no characters which separate it from the rest, or should forbid it to have its share in the organizing agency so freely ascribed to the light and heat with which it is interchangeable, or if the apparent opposition between chemical and vital processes should be objected, two observations may be made in reply. First, that heat and light show themselves in certain aspects opposed to life. Is not heat unequivocally a determining cause of vital action, yet what is more destructive of vitality than a temperature raised too high? Nay, is not cold itself often an agent invigorating to the vital process; yet what is more opposed to life than cold? And light too, may operate against vitality. The direct rays of the sun will paralyse the retina, or passing as it were into heat, when concentrated with a lens, will burn the textures. Overstimulation by ordinary light injures the eye or withers plants. And secondly, if chemical action be so directly opposed to vital, as is implied in the objection, then must the two forms of action be similar in kind though opposite in direction; and nothing is more familiar to us than the production by a given action of an action opposite to itself. Does not the contraction of a substance in cooling produce expansion in the substances around, the fall of one scale of a balance, the elevation of the other? Is not every motion in a limited space (if it be not a vacuum) of necessity two equal and opposite motions? What else, in truth, is the conception of a vibration but that of an action producing action of an opposite kind? As when a tense string deflected from the straight line is let go, its motion towards the central line reproduce the deflection.

I conclude, therefore, that there is no reason why chemical change should not have its part with other forms of action in

determining the operation of the formative force, if observation afford evidence that it is so; and in this statement that particular form of chemical action concerned in the decomposition of the tissues is of course included.

Now, that chemical change does stand in this relation to the organizing process is indicated by very numerous facts, of which those that follow are only examples. The albumen of the seed partly decomposes with exhalation of carbonic acid, as the embryo germinates; decomposing organic substances are the seats in which fungi and animalcula are developed; the increased organic action produced by light in the leaves of plants is preceded by a decomposition in those leaves,*

In fermentation, the yeast sporule grows while the liquid decomposes; and in this case the organic development cannot be obtained without the decomposition, while the decomposition may take place, although more slowly, without the organic development. To these instances we may add those before alluded to in respect to the animal body—the decomposition which takes place in the first stage of digestion; the breaking up of portions of the substance of the developing embryo (the relation of which to the development of other parts has been noticed by Mr. Newport); and the part borne by functional activity, which means active decomposition, in effecting not only the maintenance but the increased nutrition of the organs.

Such facts as these justify us in placing decomposition in organic tissues among the circumstances which give rise to the organizing process; and their force is greatly increased by the evidence afforded by the phenomena of inflammation itself. For in this affection, whatever there may be of additional formative action, points to a primary action of a decomposing character as its source, the origin of the entire series of inflammatory changes being always traceable to causes which overthrow the vital equilibrium and operate injuriously to the organic state†.

For a full appreciation of the bearing of the phenomena of inflammation on this argument, it only needs to be remembered that a disturbance of the vital condition, or lowering of the vital force, is not the inducing a merely passive condition in the part affected, but that there necessarily arises under those circumstances an active change, although not a vital one in the strict sense of the term; a decomposition of the tissues which the vital condition warded off and restrained. To diminish vitality is to permit a change more or less intense in the chemical constitution of the body. A heavy body sustained by any force, falls and produces action when that sustaining force is removed or weakened.

* See Draper, *On the Forces concerned in the Organization of Plants*.

† See especially Mr. Paget's *Lectures on Surgical Pathology*, vol. 1. p. 437.

So after death the body decomposes; it is in a truly active state, though not a vital one—an active state which can only be prevented by means which operate to forbid the play of the elementary affinities within it. Such is the “increased action” in which inflammation commences; from such action, all the increase of the vital energies which may be displayed in its course directly or indirectly draws its origin.

Still, it may be said, the conception of inflammation as a chain of effects, commencing with an excess of decomposing action in the part which is its seat, is unsatisfactory, and that in two respects. First, that the conception of excess or defect is too impalpable and abstract; the standard to which a reference is implied is not sufficiently defined. The “normal state,” or equilibrium, itself perpetually oscillates within wide limits, and how can disease be defined by a reference to health, when health is definable only by a reference to disease? And secondly, that the inflammatory process presents many characters other than those of quantity, which involve diversities of kind or mode of action, and cannot be formulated as differences of degree alone.

The first of these objections is more plausible than valid. The idea of excess or defect is perpetually had recourse to in other cases, and found not too indefinite even for rigid science. A watch may go too fast or too slow; the spring may be elastic in excess, or in defect. The steam in a boiler may be expansive in excess, or the resistance be defective. Nor is it true that health is to be defined only by a reference to disease; for the functions and uses of a living body are as definite as those of any mechanical contrivance. There is a standard, known by experience, to which the balanced processes of growth and decay should conform, and deviations from which of any considerable amount manifest themselves by precise and definite results.

The second objection has more weight, and indicates another of the causes that have made the theory of inflammation so difficult.

The phenomenon is complex, and demands analysis. The various conditions to which the term is applied refuse to be brought under any single definition which is not so vague as to be almost unmeaning, as that of an abnormal nutrition, for example. But since all of them in common do present symptoms which we describe as those of inflammation, it is impossible to narrow the meaning of the term by limiting the cases to which it is applied. Only one course is open, but that is the same which is adopted in all like cases; the points of agreement, being abstracted, may receive a common name. Now the points in which all cases of inflammation agree are those which have been mentioned, of an increased formative action consequent upon an increased decay. To these conditions, therefore, the

name of inflammation should be confined. Whatever other circumstances—whether of abnormal nutrition, or of any other kind—may be present in addition, that name of inflammation should have no reference to them. Many of them doubtless are causes of inflammation, such as the morbid diatheses, or poisoned states of the blood; but between them and inflammation itself no confusion should be allowed. The gouty, or rheumatic, or scrofulous diathesis, may be an “abnormal nutrition” (perhaps such conditions are better designated by that expression than inflammation is); but as they are perfectly separable from inflammation, so is inflammation, even when occurring with them, or as their consequence, perfectly distinguishable from them. Little progress, I venture to submit, can be made towards clear conceptions on these subjects until this distinction is recognised, and the different elements of the morbid process in what are termed specific or unhealthy inflammations are held apart, and receive their separate investigation. The constitutional morbid condition is one thing; the inflammatory action is another.

But though the connexion of inflammation with various diseased conditions has embarrassed the interpretation of the phenomena, by leading men to mix together in their thoughts elements that required to be distinguished, yet it affords an insight, hardly else to be obtained, into the use and meaning of that process in the animal economy. For if the decomposition of the tissues in inflammation be a source of increase in respect to the vitalizing action, an immediate utility becomes evident in it. In diseased conditions of the system, the vital power is depressed; in the inflammations to which they give origin there is a source of increase of the vital power. Certain textures fail in their vitality owing to the defective vitality of the whole, and that failure is attended with chemical processes in them, which generate in their reaction an increased energy of vitality. In a word, inflammation, destructive as it seems, is in one point of view strictly a conservative and remedial process. In respect to the individual, it is the sacrifice of a less for a greater good. The benefit of it is often very evident, as when a blister induces healing of an indolent ulcer, or mechanical irritation the union of old-standing fractures. It is indeed from such cases as these that the theory of “increased vital action” draws its chief support; for as a fact, such increase is in these cases undeniable. But though less obviously, yet not less truly, I conceive, is the reactive process in inflammation in every case a salutary, that is, a saving or restorative process. That we do not see it so, is that we do not sufficiently perceive the elements involved in the case. We do not carry our thoughts back to the loss or defect of the vital power which necessitates it, and to which it stands

in the relation of a remedy or amelioration. Doubtless it is an evil; so is a forming callus, or a granulating wound. But these are less evils than a useless limb or a torpid sore, and so is inflammation a less evil than the mere decay and loss which would be without it. It is ever to be remembered that the symptoms of increased activity in the inflammatory process can never go beyond their cause, can never exceed the defect of vitality of which they are at once the effect and the sign. How violent soever or injurious in their results, the evil is not in them, but in that approximation to death for which they are the divinely appointed and only remedy. True, the results are often disastrous, the materials effused in inflamed organs may interfere with essential functions, or the excitement of the general system may exhaust the powers. But this is because the loss of vitality has existed in a great degree, or has effected a texture of primary importance. An organ that has suffered inflammation is a damaged organ, but it is a better one than if it had not inflamed: a constitution may thereby be weakened, but it might otherwise have sustained a severer injury. So far as is possible, inflammation restores a life that has been lost: it adds to vitality, not detracts from it; loss of vitality is its starting-point, but not its essence. I do not deny, indeed, that the effects of the inflammatory re-action may be injurious, and in a secondary way, as by mechanical pressure or otherwise, may give rise to evils serious or even fatal: nor that it may be wise in many cases to seek to moderate or subdue it. These are questions which experience must decide; they do not affect the physiological significance of the process.

And this aspect of inflammation becomes the more evident when we view it in relation to the other processes which constitute organic life. I have said it is an exaggeration of the *functional* activity, and with some of the functions it corresponds not only in being a decomposition followed by nutritive action, but also in this, that a certain amount of the force, generated by the decomposition, is given off from the organic to the inorganic world. The heat of inflammation answers in this respect to the mechanical force of muscular contraction. But the function to which inflammation seems most nearly to approximate is that of secretion. Almost it appears as if one might speak of it without violence as a new secretion. To this idea, indeed, Marshall Hall may perhaps be said to have lent the sanction of his great authority, adopting the name of "excito-secretory" for inflammatory action produced by eccentric irritation, such as dentition, or the application of cold to the surface. Almost we might conceive the very same process to be secretion in an organ supplied with ducts, and inflammation in one in which ducts are not present: the secreting glands to be normally in a state

which were inflammation in any other organ. Nor is it otherwise than favorable to this conception, that when the function of some of the secreting glands is hindered, other parts perform a compensatory action through the medium of inflammation. The urea which should pass off by the kidneys may find exit in the fluid of a pleurisy.

Doubtless, between the processes of inflammation and secretion there are many and important differences, but the question is whether there be not also an interesting and instructive likeness. Not least among such points of likeness may be the vitalizing, organizing power exerted on the blood by the secreting glands, or some of them, and this by virtue of retrograde changes involved in the process of secretion*.

So far, secretion and inflammation would agree as an increased vital action produced by a decomposing change; in the one case normal, in the other abnormal, but in both the decomposition being due to diminution or withdrawal of the controlling force. And as the natural secretions are rendered necessary by the normal life, are the results and complements of it, without which it could not be maintained, so may not specific inflammations be new secretions rendered necessary by that altered life which constitutes the morbid diathesis? As secretion is to life in the healthy state, so is inflammation to life in disease.

But there are other events in the natural life of various organisms to which the inflammatory process bears an analogy. Such are, for example, the reproductive processes of some of the lowest animals, as excited by cold or injury. Mr. Paget has remarked respecting the production of organized material in inflammation, that it is of large amount, but of the lowest grade. Now a large amount of material of the lowest organization is produced in the gemmation of the polypes, which we know to result from some of the causes which give rise to inflammation in the higher animals. Does not inflammatory new production answer to an abortive gemmation? Especially does this appear when we extend our consideration to the case of repair, for between the gemmation of a hydra when wounded, and the granulation of a wound in man, is there not an obvious parallel?

Nor can I pass from this subject without again adverting to the phenomenon of embryonic development. When we see one portion of the germ deliquescing and other portions developing, as if at their expense, can we avoid recognising in it a similari-

* See Bernard's Experiments on the Effect of Secretion in rendering the Blood red instead of black as it issues from the Glands. The physiological doctrine, however, is entirely independent of these experiments. Dr. Prout says of excretion, "this function operates by denuding the matters excreted of their vitality which is retained, and separating the excrementitious matters in the form of common chemical compounds."

ty to that which is the essential part in inflammation? Is it not as if, in inflammation, the system, under the pressure of adverse circumstances, threw itself back, as it were, upon the mode of existence proper to the embryo? As if, to retain as much as possible of perfectness under conditions threatening to destroy it, the law of its first formation came again into operation? The process which develops the life of the germ comes in to remedy defect of life in the completed animal. Not, indeed, by any special alteration of the laws of its being, but by the operation of the universal conditions of organic existence. For the processes of life in germ and adult are the same; different to our imperfect view they may appear, but the essential identity is made manifest in disease. The generation of life from death, organization from decay, striking to sense in germ-life and in inflammation-life, is patent to the reason equally in the life of maturity and health. It is the law of life. No new thing is presented to us in inflammation. The embryonic powers come forth in disease to meet the hostile agencies, only because they are at work unseen in all the operations of the vital force*.

And if inflammation be thus parallel to the processes of health, no less may its relation be seen to other morbid conditions. Of these it may suffice to select for the comparison the class of tumours. Differing in all other respects, these two diseases appear to possess in common but the one element of increased formation, yet, if what has been advanced respecting inflammation be well grounded, it affords a sufficient basis for the establishment of an intimate connexion between them. For if the increased formation in inflammation has its origin in increased decomposition, the same, it would appear, must be the case with tumours. Let it only be granted that such an origin is possible, and the evidence in favor of it is abundant. If all the known causes of adventitious growths be analysed, they will be found to correspond very closely to those of inflammation. They are causes of irritation, things that operate antagonistically to the vital power. Whether local or general, they have this character in common. How often the development of a tumour follows a blow, for example. It has indeed been frequently remarked

* Dr. W. Addison has observed the resemblance of the morphological conditions in inflammation to those of the embryonic state. (*On Healthy and Diseased Structure, &c.*) If it should occur to any one as an objection to this view, that by inflammation the vital integrity is lowered and not elevated, it will be sufficient to remind him that an injury to, and loss of, the vital integrity, is the sole occasion of inflammation. The inflammatory action seldom or never wholly repairs this loss, but its tendency is in that direction. Such repair is its object, its final cause or use in respect to the organic body. A man is not ill because he has an inflammation, but he has an inflammation because he is ill or injured. In reference to this view of the subject I have been greatly benefited by the perusal of an unpublished paper, entitled 'The Philosophy of Disease.'

that it appears almost a matter of accident whether a given injury shall produce an inflammation or a tumour. All the evidence, therefore, which assigns an anti-vital starting point for inflammation, applies with equal force to tumours. Nor does the increased formation in the one case furnish any opposing evidence that would not bear equally upon the other. The distinction, then, between tumours and inflammation is not that the one disease is primarily of the formative process, the other of the decomposition. In this respect they do but appear to differ. They are both increased formation, due to increased decomposition; that is, to a diminution of the control maintained in the living state over the chemical affinities existing in the body. But they differ in the extent and intensity of this decomposing process; in inflammation it amounts to a true destruction, in part of the vital condition, with a giving off of force to the inorganic world; in tumours it produces only an increased local activity of the organizing process. So far these affections resemble each other; they have this *dynamical* correspondence. But into other questions relating to tumours, of course I do not enter. A condition that appears like a gradation between inflammation properly so called, and the growth of a tumour, may be seen in the increased formation of bone from chronic inflammation*.

It remains to consider the particular symptoms and terminations of inflammation, in so far as they bear upon the view suggested of its nature. But of these it is not necessary to speak at length. For, in the first place, the insufficiency of microscopic observations to furnish any clue to the essential character of the inflammatory process has been proved, and indeed admitted, long ago. Opposite theories dispose of them equally well, and the most minute investigations respecting them do plainly leave us entirely in the dark. In truth, these phenomena are to be interpreted by a sound theory derived from other and more appropriate facts, and not the theory to be framed on suppositions about the meaning of these phenomena. Very important and suggestive it is to know the particulars respecting contraction or dilatation of the arteries, the stasis of the blood, the aggregation of the corpuscles, and the nervous or other conditions associated with these, when we know to what essential changes, as respects the forces concerned in the life of the organism, they are to be referred. But we may gaze on such appearances for ever, and remain merely in blind wonder, or blinder theories of mechanical obstruction, paralysis, or mysteriously altered qualities. This is but a caricature of science.

† As indicative of the close connexion which has been felt to exist between inflammation and tumours, I may refer to Mr. Simon's representation of malignant disease as an *excretory process*—a “new secretion,” we might say, the very conception which has suggested itself so strongly in respect to inflammation.

And it is also undesirable to say much about these local phenomena, because we know so little. It is almost impossible to attempt to explain them without assumptions which go beyond our knowledge, and therefore, without creating hypotheses which are neither necessary nor useful. To me it seems sufficient to say at present that, under given circumstances, such conditions of the vessels and the blood have been observed. The facts must be valuable, but as yet they are not available for use. This, however, we know, that neither any state of the vessels, nor of the nervous system, can be primary or even essential elements in the inflammatory process. For a condition identical with inflammation occurs in plants. What else is the "increased formation" occasioned by the deposition in them of the larvæ of insects? The same cause which in the leaves of plants occasions swelling, hardness, and excessive formation of abnormal structure, produces in the animal textures heat, redness, swelling, pain, and the formation in excess of lowly organized tissue. Would it not be unreasonable to refuse to recognise identity of condition? In the plant, then, we see inflammation in its purest and simplest form, and so understand at once the secondary part which must belong to any changes affecting the specifically animal structures.

But if the conditions of the circulation be of little moment in respect to the essential nature of inflammation, they are of the greatest importance in respect to its progress and terminations. Constriction or dilatation of the vessels, stagnation or altered qualities of the blood, merely consequences though they be of dynamical changes wholly independent of them, may nevertheless be the chief agents in determining the course and results of the inflammatory process. The accumulation and stagnation of the blood in a part may be a cause of sloughing or of gangrene; its excess, with or without co-existent alterations in its quality, may prevent the restoration of the normal vitality, or may give rise to effusions of various kinds. So it may become a matter practically of the utmost importance, to control or remove the accumulation of blood in an inflamed organ. The issue of life or death may depend on it. But these therapeutical questions are so far distinct from that which has been the subject of this paper, that they are better treated independently. I would remark only, that if inflammation be, as I have sought to show, a two-fold process of increased decomposition and increased formation, having its source in a diminution of the vital control over the coerced chemical affinities in the living textures, a general conception of the appropriate treatment is easily deducible therefrom. If it be possible, let the vital power be restored, and the suspended control reinstated; all our efforts should be directed most strenuously to this end, to prevent or diminish that failure of the

vital tension from which the active symptoms of inflammation spring. But if this be not possible, then let the resulting changes be so regulated as may be best adapted to conserve at once the sufferers general strength and the integrity of the affected organ. If the action be threatening from its violence, let those means be adopted which check decomposition or divert the flow of blood. But ever and above all, let two things be remembered : first, that the process of inflammation, as it meets our view, is not wholly an evil ; that the *formative* process in it is the witness of, and the remedy for, an injury to the system unseen and too often unthought of by us. If we could remove all these symptoms, there would still remain that condition which has necessitated them ; a worse evil, a more serious disease, in combatting which we should have deprived ourselves of our only ally, in having set aside Nature's only remedy. There would still remain that diminution and loss of vital power which no art of ours could then supply : a death in life from which we might well shrink in impotent dismay. Let it be remembered ever, that where the cause of inflammation in failing vitality exists, there inflammation will be. No power of ours can prevent it, nor could it be anything but most disastrous if it did. All her resources, all her life, will nature pour into the gulf of local inflammation rather than suffer the deteriorated organ to fail of its support. The quick sympathy compels all the living powers to that work, and sooner should the veins be drained of blood, and the most vital functions droop and fail, than the weakened member not receive its larger share.

And sccondly : In cases of constitutional inflammation the morbid condition of the system is a cause continually operating to produce that lowered vitality on which the symptoms of inflammation depend, and the removal of that diseased state is the means whereby those symptoms must be averted.

In conclusion, I remark that inflammation is rightly enough represented as an altered nutrition. I have endeavored not to controvert this view, but only to add somewhat to its definiteness and value. As a formative or vital process, dependent on a decomposing or chemical one, it corresponds to the clearest conception of nutrition that we can gather from the phenomena of life in all its forms. Inflammation is the same process that constitutes all nutrition, but taking place under conditions other than those which are natural to, or best for, the individual organism in which it is excited. As an abnormal nutrition, it not only is illustrated by the other phenomena of life, but serves also to illustrate them. The process of nutrition receives elucidation from the comparison as well as gives it. For that which is found to be the essential character of inflammation, must be not less essentially the character of nutrition. This is perhaps

the advantage that results from the establishment of the parallel between them, that all the knowledge which is obtained by a study of the phenomena of inflammation, more definite and susceptible of rigorous investigation as they are, may receive a direct application to the more extensive and difficult problem of nutrition.—[*Brit. and For. Med. Chir. Review.*]

Narcotic Injections in Neuralgia.

CHAS. HUNTER, Esq., House Surgeon to St. George's Hospital, records (*Med. Times and Gaz.*, Oct. 16th) the following cases of neuralgia treated by narcotic injection into the part, as proposed by Dr. A. Wood, of Edinburgh.

CASE I.—J. G., aged 55, was admitted into St. George's Hospital, July 21, under Dr. Pitman, with tic douloureux. He had been constantly subject to it for four years, with but little intermission; at one time he obtained for a few weeks from seven to eight hours' sleep at night, but with that exception he used always to be in pain day and night, and seldom slept an hour without a violent paroxysm.

On admission, he was suffering these repeated violent attacks of pain all over the left side of the face, which caused him day and night to keep up a cry of anguish. Various remedies to palliate the pain were attempted, but unsuccessfully till the 7th of August, when the local injection of morphia was commenced. About one grain and one-third of the acetate of morphia was injected at 8 P.M.; the man fell asleep very soon after, and continued to do so for seven hours. During the next few nights the same dose was regularly injected, and he slept either all night or for several hours.

On the 11th, he was asleep when visited, so no more morphia was injected; he, however, slept two hours; the next few nights the injection was not given; he slept either not at all, or most indifferently.

16th. A larger dose was injected into the cheek from within the mouth; he went off to sleep at once, and did not awake all night; he was also easy the whole of the next day; after this the original dose was continued, both night and morning.

20th. He sleeps a good deal; has good nights, and two or three hours' sleep in the day. The paroxysms are now so slight, that often no one except the patient can tell when they are on; no continued pain is felt, and the paroxysms are "sometimes off for half a day, often for several hours."

30th. Until to-day the morphia has been injected night and morning; but for the present the administration is left off on account of a considerable sized abscess which has been gradually forming the last few days, and which was opened to-day.

The part injected was the gum over a back upper tooth, as that was the most painful part, and the spot which, if touched, always brought on a paroxysm; latterly, the adjacent tissue of the cheek was injected close to the gum.

Thus, not only was sleep procured, but the patient obtained considerable ease during the day while the injection was gone on with. The constant recurrence of the attack of pain was put an end to, and the paroxysms, when they did occur, were far milder; but a large abscess formed in the cheek.

CASE II.—E. P., aged 18, was admitted into St. George's Hospital, July 25, under Dr. Tatum, suffering from excessive neuralgia in the right eye, which was also extensively diseased. As there were no hopes of saving the eye, and the pain was constant, the globe was removed for fear the other eye should also suffer; unfortunately it did, and ran a most rapid course—the lids becoming swollen, hard, thick, and everted; the neuralgia in this eye became even worse than it had been in the other.

All kinds of remedies were tried—aconite, morphia, hyoscyamus, opium, quinia, etc., all failed to give relief; chloroform was then used, and frequently, but it only gave her ease and sleep for a few minutes, or at the most an hour or so.

Sept. 9. $\frac{3}{4}$ gr. of morphia (the acetate) was injected under chloroform into the eyelid, but produced no sleep, as sickness (which had commenced in the afternoon after a dose of morphia by the stomach) continued during the night.

10th. No morphia given by the stomach, $1\frac{1}{2}$ gr. injected under chloroform into the eyelid; she went off to sleep for seven hours continuously, which she had not done for some months. She slept also once or twice the next day without chloroform.

11th. Injection repeated 10 P.M.; a part escaped; she slept four hours; had acute paroxysms between the periods of sleep.

12th. Sleep produced by the injection, and the severity of the paroxysms much diminished.

In the next few days the morphia was injected, and gave ease and sleep in proportion to the amount injected; from this time no chloroform was employed while inserting the point of the syringe in the skin.

16th. Slept four hours last night. The pain now is nothing to be compared to what it previously was, the swelling is going from the eye. In the evening nearly three grains of morphia were injected; sleep was immediately produced, and continued eight hours. The next day she was far quieter and easier, and appeared so comfortable at night that no morphia was injected.

18th. No morphia having been injected, no sleep was obtained last night, although a six-hour dose (gr. i.) was continued to be administered by the stomach.

19th. $1\frac{1}{2}$ gr. injected into the eyebrow, gave sleep for several

hours at night, and a little in the day ; at night two grains were given by the stomach ; it gave no sleep, but after an hour or so caused considerable sickness.

Oct. 4th. The morphia injection is still continued, and with considerable relief to the patient.

Remarks.—In this patient, then, it appears:

1. That a very great change has been made for the better, the progress of the affection appears arrested ; or, at all events, for the present kept at bay ; the health of the patient is improved.

2. That the local affection appears so far improved, that all the hardness, thickness, and eversion of the conjunctiva have subsided ; the pain in the head is very much less, the pain in the eye is far less acute, and the attacks much less frequent, so that sleep is every now and then obtained during the day without medicine.

3. But it must be observed that this girl, like the man, has had abscess as a result of the local injection ; the eyelid, the eyebrow, and the side of the eye, have all been opened for the liberation of matter.

4. It is very interesting to observe, that in this girl the injection of morphia into the cellular tissue was most effectual ; but that morphia given by the stomach was of no benefit at all, but always did harm ; that general irritation to the nervous system was produced ; that sleep hardly ever followed, and was then probably accidental, because so seldom, but that sickness, nausea, giddiness, etc., almost always accompanied its administration by the stomach, whatever the strength of the dose happened to be.

In considering the results of the trial of the local treatment in the two cases, the advantages obtained appear to me to be—

1. That much less constitutional (nervous) irritation attends the local introduction of the narcotic than when it is given by the stomach.

2. That the effect of the narcotic is more immediately produced.

3. The action of the narcotic appears more sure when injected. The exact amount taken into the circulation can be more readily seen, and the risk of contamination or alteration which it is exposed to, given by the stomach, is avoided.

4. It appears to exert more benefit on the local affection when it has to be absorbed from the part affected itself, probably from being brought more directly into contact with the nerves involved in the disease.

On the other hand, there are the disadvantages ; these are chiefly—

1. The pain occasioned by the introduction of the fine caula.

2. The chance of the fluid escaping from the wound or puncture.

3. The production of local inflammation, effusion of blood, abscess.

To conclude: are the disadvantages of such import that they ought to preclude the local employment of narcotics by injection? do the advantages preponderate over them? I think they do; and that the disadvantages are only those which, with care and experience, may either be avoided, or much diminished; for instance—1. By employing such a syringe as that used for the perchloride of iron (to inject aneurisms, etc.), with a very fine point to the nozzle, the pain is not more than that occasioned by the prick of a needle. 2. By having the injecting tube no larger than that of such fine syringes, the puncture in the integument is so small that the fluid does not escape. 3. With regard to the formation of abscess; it is only, for the most part, after repeated injections have been made in one place that such happens. One great thing then to avoid it is, to vary as much as possible the exact site to be injected, still injecting in the painful part, or to cease injecting for a time. The necessarily acid state of the solution of the morphia (for it must be strong), is certainly another disadvantage; but as irritation to the integument appears produced, as little acid as possible ought to be employed, and any excess in the solution neutralized by potash. These inconveniences being obviated as much as possible by the means pointed out, I think such advantages as the more rapid introduction of the remedy into the system, the avoidance of constitutional (especially nervous) irritation, the greater certainty of the effect, and the more concentrated effect of the remedy on the painful part ought not to hinder the local treatment of neuralgia from having a fair trial.—[*Am. Jour. Med. Sciences.*

Pathology of Rheumatism.

DR. FRANCIS T. BOND analyzes (*Midland Quarterly Journal*, April and July, 1858) the prevailing doctrines regarding the intimate nature of rheumatism, and objects, with regard to the lactic-acid theory, which may be said to be the one most generally prevailing at present:—1. That lactic acid has not been shown to be in excess in the blood of rheumatic patients; 2. That, even supposing it to be present in excess, it would be difficult to trace the connection between this circumstance and the exudations in and about the different fibrous structures of the body; 3. That other acids being in excess in the secretions, and therefore possibly in the blood, they may be as much the cause of the phenomena as lactic acid; 4. That, in regard to the theory attributing the disease to suppression of the cutaneous excretions, it is doubtful whether it is preceded by greater sup-

pression than the prodromata of all inflammatory diseases bring with them; and, 5. That the extreme tendency to sweating which occurs during an acute attack of the disease may be much better explained by another theory.

In order to establish a theory of rheumatism, Dr. Bond next analyzes the phenomena of the disease, and finds that fatigue, exposure to cold, mental emotions, or some other depressing agent, exercise a paramount influence in its production; febrile symptoms making their first appearance, followed by local affections in some fibrous tissue. A hyperinotic condition of the blood exists from the first, and the excessive fibrin having a special affinity for the fibrous structure, is specially deposited in and about them; hence the joints and the valves of the heart become the chief seats of the local affection. The preference shown in different cases for particular joints depends upon their greater weakness, or upon their labouring under some abnormal condition, upon the principle enunciated by Mr. Paget, that the depressed nutrition of a joint makes it more liable than any other part to be the seat of inflammation excited by the diseased blood. Dr. Bond's theory, then, reverses the order in which the different constituents of the diseases are commonly supposed to stand. Instead of regarding the hyperinosis merely as an effect of the reaction of the local disease, upon the system at large, he considers it to be the primary source of the exudation, the causative agent of the latter, without which it could never exist. The increase in the urinary and cutaneous secretions, and the greater amount of urea, uric acid, lactic, phosphoric, and other acids in them, the author attributes to the metamorphosis of the fibrin; these substances being the products of the degradation of fibrinous matter, "the relations of urea and uric acid to highly nitrogenized matters—as exhibited by the experiments of Lehmann, by the recent manufacture of urea by oxidizing albuminous substances by M. Béchamp, and by the general excess of these excreta in the hyperinotic states of the blood, combined with that of lactic acid, to the muscular juice as determined by the researches of Liebig—amply corroborate this statement as far as these three bodies are concerned; the others, from the smallness of their amount, may be put out of consideration."

Dr. Bond considers the sources of an excess of fibrin in the system to fall under three heads: 1. As a result of imperfect primary assimilation; 2. As a result of a metamorphic process, normal in nature, but extreme in amount; 3. As a result of defective elimination of the fibrin by the excretory processes provided for the purpose.

Having said thus much, we must refer our readers for the conclusions which the author draws as to treatment to the

paper itself; we will merely add that his theory possesses a great resemblance to that propounded by Mr. Toynbee, a short time back, at the Medico-Chirurgical Society, shortly after the publication of the first part of Dr. Bond's paper.—[*Brit. & For. Med. Chir. Rev.*, and *Am. Jour. Med. Sci.*]

Dislocation of the Fourth and Fifth Cervical Vertebrae.

DR. W. M. RYER records (*Pacific Med. & Surg. Jour.*, Sept. 1858) a case of this rare accident. The subject of it was a girl seven years of age, of lymphatic constitution, the daughter of Dr. Hepburn, of Mokelumne Hill. When seen by Dr. R., the patient's head "was most singularly and immovably fixed, much bent to the side, the ear approximating but little in advance of the right shoulder, and in a position no child in a normal condition could for a moment assume; the slightest motion tending to change the relative position of the head and body producing intense pain.

"The father, Dr. Hepburn, an aged and very intelligent practitioner of medicine, had watched the child with a parent's solicitude for the six previous days and nights, and neither during sleeping or waking did the child move its head from the position it had assumed from the instant of the accident. As the right clavicle was fractured at the time, the doctor was inclined at first to believe the child was favouring the fracture and was unwilling to entertain the unpleasant thought of so serious a complication as luxation of the spine.

"The child had fallen six days previous to my visit, from a high bed, and is supposed to have struck the back and left side of her head. The father saw her within a half minute after, and found her head and neck distorted precisely as at the time of my examination; there had been no change for six days. Such distortion, I believed, must have arisen from muscular contraction or bony displacement. We examined every muscle whose contraction would be likely to produce the deformity, and found them loose, soft, and uncontracted. Upon tracing the spinous processes from below to the articulation of the fourth and fifth cervical vertebrae we found them form, at this point, an obtuse angle, and depart from the natural direction about forty degrees. The intellectual faculties were good, and sensation and motion not greatly impaired. I could form no other diagnosis than was formed by the medical gentlemen in attendance previous to my visit. It was clearly a dislocation of the left oblique articulating process—the process of the fourth riding over the upper margin of the one with which it was articulated below.

“As objections were made to the administration of chloroform, we attempted the reduction without it, and failed. We then administered this anæsthetic and succeeded to our fullest anticipations, Dr. Soher, and other gentlemen who assisted, distinctly recognizing the instant of time when the reduction was effected. The child immediately had full motion of her head and neck, and is now entirely recovered.”—[*Am. Jr. Med. Sci.*

The Extent to which Ether should be used in Midwifery.

IN a discussion on this subject at a late meeting of the Norfolk District Med. Soc. (Mass.), Dr. Cotting of Roxbury, gave the following as the result of his experience:—

“In our own individual experience in several hundred cases of normal labour, we have been led to observe—that only a very few patients were capable of taking just that amount which would deaden the acuteness of the suffering without at the same time diminishing the frequency and effectiveness of the uterine contractions*—that generally, as suspension of consciousness approached, there was a marked and proportionally complete suspension of the expulsive efforts—that, with the greatest care possible under the circumstances, there was frequently more or less irritation of the air-passages; often troublesome coughing; sometimes nausea and vomiting, attributable directly to the anæsthetic; also, occasionally strong tendencies to hysterical manifestations, which sometimes continued after the labor was over; with other minor inconveniences, such as unwonted impatience, jactitation, &c., &c.; so, also, instances, not a few, of subsequent retention of urine; as well as post-partum hemorrhage from imperfect uterine contraction, apparently due to the same agent—that, although something was apparently gained by the occasionally greater relaxation of the organs, the duration of these labours was unmistakably longer than those of a similar character in which an anæsthetic was not used; and, in general, there seemed to be greater subsequent debility, and a slower getting up than was to have been expected—that we have never witnessed any undoubted evidence of subsequent *permanent* injury to the life or health of the mother or child arising from the use of ether during labour.

“In abnormal cases—from a considerable experience in all the various operations from podalic version to craniotomy and other disintegration of the foetus, both before and since the discovery of these anæsthetics—our conclusion is that while the judicious use of ether immeasurably increases the ease, certainty and effectiveness of obstetric operations, the insensibility of the patient, when desirable, and her comparative safety, are bene-

* This is our experience.—[EDTS. S. M. & S. J.]

fits to be obtained through its administration whose value is beyond all estimation.

"In puerperal convulsions, whether identical with uræmia, according to the latest theory, or otherwise, anæsthetics during the paroxysms seem to be supplanting what but yesterday was considered the only orthodox practice. The convulsions seemed to be completely controlled by the use of these agents in the few cases in which we have had occasion to administer them.

"Such has been our private experience. We do not know that it is at variance with that of any observant practitioner.—Whatever suggestions we may have gained from the reports and practice of others, it is not improper to say that we here advance nothing practical which has not been confirmed by personal observation, the results of which alone are suited to this occasion and the object of the present discussion.

"Bearing in mind, then, that the great object of our art is the diminution of human suffering; and that in the economy of nature the pains of parturition may have some ultimate beneficial purpose; and further that, as sufficient time has not yet elapsed since the discovery of the anæsthetic powers of these agents to fully disclose all the consequent effects of their administration, much must be left in each individual case to the intelligence, judgement and tact of the medical attendant—bearing all this in mind, we conclude with the following generalizations:—

"I. That in ordinary cases of midwifery, while *ether* may be allowed in moderation when importunately demanded by the patient, it is quite as well in the long run, to say the least, to let normal, uncomplicated labours proceed uninterfered with.

"II. That in painful, laborious, or complicated labour, and in cases of great tenderness or great rigidity of the organs, of extraordinary susceptibility to pain, and where there is great nervous irritability, or undue apprehension of danger, ether, if favourably received, should be used to the extent of overcoming the abnormal condition and suffering.

"III. That in cases requiring manual or instrumental interference, ether should be used to the same extent, and upon the same general principles as in other operations involving pain and danger to the patient.

"IV. That in puerperal convulsions, especially in those having the characteristics of uræmic eclampsia, ether should be given as soon as there are indications of an approaching fit, and be continued, if seemingly efficacious, until the paroxysm has subsided and quiet sleep is induced; or until other medicine, if desirable, can be swallowed—care being taken to allow a sufficiently large quantity of pure air, and not to continue the ether if coma supervene.

"V. That all the volatile anæsthetics yet tried, except ether,

have been known to cause severe accidents, and even instant death, though given with the greatest care by experienced practitioners, and this, too, before any considerable quantity had been inhaled; ether only should be used as an anæsthetic in midwifery. Ether, likewise, should be administered with the greatest caution, so that the safety of the patient may not be unnecessarily put at hazard."—[*Boston Med. & Surg. Jour.*

On a peculiar Black or Blue partial Coloration of the Skin, which is sometimes observed in Women, particularly round the Eyelids.

By LEROY DE MERICOURT.

BESIDES the four cases of this singular affection described by Neligan, M. quotes one case described by Yonge in 1709. She was a girl of 16, native of Portsmouth, never menstruated, and black coloration gradually disappeared in six months; and another described by Billard in 1813, also a girl of 16, whose face, neck, and upper part of the breast, particularly the brow, *alæ nasi*, and round the mouth, presented a beautiful blue color, which could be wiped off with a towel, and colored the white linen. She had menstruated regularly for two years; and from that date had observed the blue coloration round her eyes, which disappeared in the open air, but speedily returned, so soon as she began to work in a warm close room. After a year, the blue coloration spread over her face, neck, and belly, and no longer disappeared in the open air. Subject to a dry cough, she occasionally expectorated a little blood, especially about her menstrual period, after this had passed, accompanied by vomiting and expectoration of blood; she was paler, breathed more freely, and the blue coloration was almost gone; increased heat and vascular excitement brought out the color stronger; the blue color was tested by various re-agents; and as amongst those which neutralized the colour, bicarbonate of soda seemed the least hurtful, it was given internally and in twelve days the coloration was once more restricted to the circumference of the eye, the brow, and the *alæ nasi*. M. has himself observed in Brest no fewer than five cases; the first three he relates summarily, as they occurred some years ago, and the phenomena were incompletely manifested. The respective individuals were from seventeen to twenty years of age, previous health in two of them normal, in the third dysmenorrhœa, hysteria, and megrim co-existed. Twice the dark coloration came on, after sudden suppression of the menses. In one case, fainting, headache, palpitation, and oppressed breathing, were the immediate results of the suppression, the coloration beginning two days subsequently on the upper and lower eyelids, other dark stains likewise making their appearance on various parts of the body.

The dark color was paler in the morning, and became darker after exposure to any excitement or high temperature. After two years her catamenia recurred; the dark color, however, remained, withstanding the effects of marriage and several confinements, experiencing, however, a perceptible diminution during lactation. Since then the color has become markedly paler, although the menses are still incomplete. In the second case, there was also markedly less color in the morning, which could also at such times be partly wiped off, but speedily recurred; in this case, as well as in the third, the color remained during pregnancy. The fourth case was a newly married woman; aged twenty-two, who first menstruated in her seventeenth year, and a year after, while menstruating, fell into the water up to her waist, whereby the menses were suddenly suppressed, and she was seized with headache, palpitation, oppressed breathing, and colic pains, and also expectorated blood several times. Four days subsequently, she remarked a dark coloration of the lower lids, which speedily increased in extent and intensity. Four months after the menses recurred, the black color remaining, however, much the same, paler in the morning, more remarkable after excitement or exposure to high temperature; lately, however, it has become much less. The fifth case was a brunette child's maid, aged twenty, who menstruated first at seventeen, and had been hitherto in good health. About two months ago, three days after normal menstruation, she remarked a dull blue coloration of both lower eyelids, which had next day assumed a darker tint, like china ink, and extending down the cheeks. Examination with a magnifying glass showed that, as in Neligan's case, the coloration depended on a multitude of dark points, wiping with a towel stained the latter; but neither wiping nor washing sufficed to remove the color. This coloration, according to M., consists in a pigment deposit on the surface of the epidermis. Neligan and Hebra have supposed, from the punctated appearance of the coloration, that its seat was in the sebaceous follicles. M. rejects this, because any connection between menstruation and these follicles is unknown, while pigmentation stands in acknowledged relation to many uterine conditions, as pregnancy for example. M. particularly refers to the evanescence and mutability of the coloration in several cases as incompatible with this theory of its origin, and without speaking positively, seems to regard the punctated appearance as more probably depending on pigmental alterations of the openings of the perspiratory ducts. The eyelids are the chief seat of this coloration, partly because of the fineness of their integuments, partly because of the acknowledged sympathy of the eye with the sexual organs. M. considers that Neligan's definite, "*Stearrhœa nigricans*" is erroneous and prema-

ture, and that a circumlocutory title is to be preferred, until more is known regarding the nature of the affection. From the ten cases already described, M. draws the following conclusions: *Etiology*.—The individuals affected were from sixteen to twenty-two years old; two were sixteen; eight had not yet menstruated; the disease always commenced in the unmarried state. In eight cases there were either dysmenorrhœa or amenorrhœa; only in one case was menstruation unaffected; thrice there was sudden suppression of the menses (twice after exposure to cold, once after mental excitement). Nine cases occurred in towns situate near the sea, five of these in Brest. Two patients were of fair complexion (Blondinen). The *eruption* of the disease was usually sudden, yet it always took some days to reach its height. The shortest duration of the disease has been three months; another case has already lasted seven years. In tedious cases, the coloration endures in spite of the return of the menses, or parturition itself, though both bring about variations in it. In one case nursing was beneficial. Its disappearance was never sudden, always gradual. The *therapeutics* must always have respect to the apparent prime cause, anormal menstruation; the due regulation of that is sometimes followed by disappearance of the coloration, always by a diminution of its tint.—[*Archives Générales*, and *American Jour. of Med. Sciences*.]

Broth and Beef-Tea. By Dr. J. B. HICKS, London.

I have ventured to occupy a few lines with a description of an apparatus, constructed to my directions, for making broth and beef-tea, &c., which, though simple, possesses what is I believe a desideratum for the invalid, namely, the property of producing broth

1. Free from fat,
2. Free from smoky flavour,
3. Ready for use five minutes after removal from fire.

Every one knows how disagreeable to a delicate appetite, or a sickly stomach, is the smallest amount of fat floating on broths, and how annoying it is to the medical attendant to be told on inquiry in a case of urgency, that the patient had refused the broth ordered, in consequence of grease or smoke, or that he had to wait some hours for the fat to cool before removal.

The apparatus consists of two tinned vessels, one fitting loosely into the other. The outer is furnished with a small stop-cock set flush with the bottom. There are three small knobs about a quarter of an inch, soldered beneath, to keep it off the saucepan, and allow water to flow under; also a wire handle, and covered like a small milk-can. The latter has a small hole in centre to allow steam to escape, and is slightly convex to

throw off the wet. The inner vessel is perforated at the bottom, and has on its rim a small projection for the finger to draw it easily out. In using it, place the one in the other, fill the inner with the meat, pour in cold water, cover over and place in a saucepan which has been partly filled with cold water; cover that over; gently simmer for four or five hours. When done withdraw the apparatus from the saucepan, uncover and draw out the inner vessel containing the exhausted meat, press out the broth it retains into the outer vessel, which now contains the fatty broth. Wait five minutes to allow the fat to rise to the surface, then draw off the broth by the tap, shutting it off just before the fat is about to come, when it must be stopped. The broth will be found to be perfectly free from fat or smoke. Should fat have accidentally escaped, return the whole to the vessel, wait five minutes, and draw off again. A glance at the apparatus will show its principle, and it is not so troublesome as the jar inside the saucepan. I send a section of it. I have used one constantly at home, and all who possess them speak highly of their certainty and convenience.—[*Med. Times and Gazette.*

Delirium Tremens Treated with Chloroform. Under the care of Dr. P. FRASER, at the London Hospital.

B. G., aged 32, a japanner by trade, residing in Stepney, was admitted on May 8th, under the care of Dr. Fraser, suffering from delirium tremens. He was immediately sent into the attics; and on account of his extreme violence, male attendants were provided for him.

About 8 o'clock, chloroform was administered. It took a very small quantity to bring him under its influence. Its action was kept up for an hour, after which he continued in profound sleep. The attendant was ordered to send for the medical officer if he awoke; this, however, was unnecessary, as the patient did not wake till Dr. Fraser's visit at 1 P. M. He still suffered from many delusions. After he was left, he fell asleep without the administration of the chloroform, and slept for two hours, when he awoke and partook of some beef-tea and brandy. He had also a powder, consisting of five grains of calomel with fifteen grains of jalap.

At 8 P. M., he was restless, with no delusions; complained of pain in his head.

At 11 P. M., he was still restless, and said he felt no tendency to sleep; his bowels had been relieved.

Chloroform was again administered; a large quantity being required this time to remove the stage of excitement. He continued to sleep for four hours.

May 9th. The delirium has entirely left the patient, and he has made a very tolerable breakfast of bread and butter and milk. He was ordered milk diet and beef-tea, three ounces of brandy, and a pint of porter. He slept in the evening.

May 10th. He was ordered to have middle diet and a pint of porter, and to omit the brandy. He slept well.

May 11th.—He was ordered three grains of calomel and a scruple of jalap. In the evening, he was removed from the attics to the wards, and slept well.

May 12th. He was ordered decoction of cinchona with five grains of sesquicarbonate of ammonia three times a day.

May 15th. He was discharged cured, and left the hospital.

On enquiry of the patient since his recovery, it was found that he was taken ill on May 4th, and that the practitioner called in to attend him gave him medicine to "sleep him," as the patient says. He has never been an habitual drunkard, but has been in the habit of taking as much beer as he could without getting drunk.—[*British Med. Journal*, and *Braithwaite's Retrospect of Practical Med. and Surgery*.]

On the Treatment of Scarlatina. By R. H. MEADE, Esq., Senior Surgeon to the Bradford Infirmary.

[THE treatment of the severer forms of this disease is often most unsatisfactory, and the introduction of any remedy more successful than those in general use, would be a boon to the profession. *Scarlatina* has lately been very prevalent and fatal in Bradford, and the symptoms presented by many of the cases bore a close analogy to those of *erysipelas*, and were treated in the same manner by the author. Mr. Meade says:]

I had long been convinced of the value of the tonic and stimulant treatment in all forms of *erysipelas*, and formerly placed my chief confidence in ammonia: I found however, that the mineral acids with quinine were more efficacious, and generally prescribed them, until a few years back, when the tincture of sesquichloride of iron was recommended. Though the value of this remedy has been doubted, I have found it so useful, that I regard it almost as a specific, both in the idiopathic and traumatic forms of the disease; and invariably prescribe it both in hospital and private practice; and I have been assured by other medical men that they have equal faith in its virtues.

Having so much confidence, therefore, in the tincture of iron in *erysipelas*, I determined to try it in *scarlatina*, and I have, accordingly, given it during the last winter and spring to every case that I have seen, with the exception of a few, which were so slight as scarcely to require any medicine. The success of

this treatment has exceeded my expectations, and I have had only one fatal case since I commenced its use. Several cases, in which the symptoms set in with severity, were apparently cut short by it; and almost all the cases in which I gave it recovered with unusual rapidity. I gave it in doses varying from five to fifteen minims, according to the age of the patient, every three or four hours; and when the throat is ulcerated I also apply a solution of nitrate of silver to the fauces. Several of my medical friends have tried the tincture of iron at my suggestion, and have reported favorably of its use.—[*Med. Times and Gaz.*

Muriate of Ammonia in Neuralgia.

Some of the preparations of ammonia have long been in use in France, Germany, and elsewhere, as remedies in various nervous affections, with variable success. At the Salpêtrière and the Bicêtre hospitals in Paris, the valerianate of ammonia has been much used in epilepsy for years, in the formula of three parts of valerianic acid, two parts of alcoholic extract of valerian, water ninety-five parts, and sesquicarbonate of ammonia in sufficient quantity to neutralize the acid. The dose is a drachm three times a day. Latterly, the muriate of ammonia has been brought forward on the authority of the Germans, as valuable in neuralgia, especially of the face, and we have recently had the opportunity of seeing it tried in a favorable case, at Guy's Hospital, under the care of Dr. Wilks, and, so far, with some benefit. The patient is a man aged fifty-five, who has been subject to facial neuralgia of the left side for the last four or five years, during which period he has undergone various modes of relief ineffectually. He was put upon half a drachm of the muriate, in water, every six hours, and although he has not been more than a week under this treatment, he is certainly much relieved, the pain having diminished. Even supposing that this man is cured, a more extended trial of the agent is required to warrant the eulogium passed upon it by the Germans. In certain forms of chronic diarrhoea it is really a valuable agent. [London Lancet.

Changes of the Blood-Cells in the Spleen.—The opinions of physiologists as to the functions of the spleen have been various. Some, as Funke, Hewson, Bennett, &c., believes it to be a generator of blood-cells, while Kölliker and others maintain that it is a destroyer of them. Dr. Henry Draper relates (*N. Y. Jour. of Med.*, Sept. 1858) some microscopic investigations made by him on the blood of frogs taken from the splenic artery and splenic vein, and he found the latter to contain at least double the general average of imperfect cells; whence he infers that "the spleen must be an organ for the disintegration of blood-cells."

[*American Jour. of Med. Sciences.*

EDITORIAL AND MISCELLANEOUS.

Death of Professor George M. Newton.

By an inscrutable degree of Divine Providence, we are called upon to sadden our pages with the melancholy record of the death of one who long and ably held a distinguished position in our Profession—as an elegant Lecturer, successful Teacher, and a man of profound Science. Professor GEORGE M. NEWTON has been cut off in the prime of life, and the news of his death will becloud the countenances of thousands of Medical Students and Physicians who, in times past, have enjoyed the benefit of his teachings in the Medical College of Georgia, as they read the melancholy circumstances of his demise.

The following brief sketch, prepared for the daily papers, by one of his earlier colleagues, who knew him even longer than we did, we transfer to our pages, feeling confident that it will be more acceptable than anything we can say on this sad occasion:—

“It becomes our melancholy duty to announce the death of one of our most respected citizens—Dr. GEORGE M. NEWTON. He died at his residence in this city, Thursday morning, at nine o’clock, of *tetanus*, caused by injuries received some weeks ago, when he was thrown from his buggy.

“Dr. NEWTON was born in this city in the year 1810. After completing his collegiate career at the University of Georgia, he engaged in the study of Medicine; and, graduating with honor at the University of Pennsylvania, he spent several years in the Schools and Hospitals of Paris. Soon after his return to his native city, he was elected to the Chair of Physiology in the Medical College of Georgia; but was subsequently transferred to the Chair of Anatomy, which he filled for about twenty years with distinguished ability.

“It may be said with truth that he had in this position no superiors, and but few equals. About two years ago he retired from the duties of his profession, carrying with him, in his retirement, the profound respect of his colleagues, and of hundreds of physicians scattered over the land, who had had the good fortune to be his pupils.

“On the occasion of the announcement, in the *Southern Medical and Surgical Journal*, of the resignation of Professor NEWTON, and the publication of the proceedings of the Board of Trustees on that event, (in the June, 1857, number of the Journal,) the Editor said:

“PROFESSOR NEWTON.—In giving place to the above kind expressions of the Board of Trustees, it can scarcely be expected that we will refrain from recording our own personal tribute to one, with whom for fifteen

years, we have been a co-worker in the same field, and whose place in the Faculty we are now called to occupy. Sustaining towards him for many years, the near relation of Prosecutor and Demonstrator, we have had ample opportunity of knowing and appreciating his merit, as the perfect Anatomist—the urbane Teacher—the erudite Lecturer—may he be as happy in retirement as he has been useful in public. Difficult, we are fully aware, will it be for us to fill his place, but among our qualifications for the task, we do highly value the advantage, of having had ever before us, such a model in the Art, as Professor GEORGE M. NEWTON.”

“At the time Prof. NEWTON resigned the Chair of Anatomy, the Board of Trustees of the Medical College, at an adjourned meeting on the 2nd of May, 1857, passed the following resolutions:

“*Resolved*, That his resignation be accepted, under the assurance that any effort to induce his withdrawal of the same would be unavailing.

“*Resolved*, That we here record our testimony to the faithfulness, zeal and ability with which Prof. NEWTON has uniformly discharged the duties of his chair.

“*Resolved*, That as a mark of personal regard, and of our high appreciation of his services, Prof. GEORGE M. NEWTON be, and he is hereby, appointed, Emeritus Professor of Anatomy, with the request that whilst exonerated from formal and stated duty, he will yet continue to lecture to the classes whenever his leisure and inclination may permit.”

“Dr. NEWTON never engaged in the active duties of his profession. An ample fortune enabled him to devote his time to the cultivation of literature and science. His mind was clear, acute and vigorous. His judgment was rarely at fault. His will was resolute, and he never faltered in carrying out his plans and purposes. Had necessity compelled him to exert his faculties, he would have reached the highest rank in his profession. But his merit was excelled by his modesty; and he shrunk from the public gaze, and revealed his character in all its excellencies only to his friends. His integrity was unimpeachable, while his benevolence was large, but unostentatious. In his death, our city has lost one of its most valued citizens. He bore his painful disease with unflinching fortitude, and met death with resignation, and, we trust, with hope.”

The following record, taken from the daily newspapers of the city, will serve to show how highly he was regarded by his colleagues and by the students of the Medical College of Georgia:—

MEDICAL COLLEGE OF GEORGIA, Jan. 7, 1859—10 A.M.

At a meeting of the Faculty and Students of the Medical College of Georgia, on motion of Prof. H. V. M. Miller, Prof. I. P. Garvin was called to the Chair, and the following gentlemen were appointed Secretaries—

viz: W. E. Link, South Carolina; W. W. Peel, Georgia; B. S. Isbell, Alabama.

The Chairman, in a few appropriate remarks, announced the death of GEORGE M. NEWTON, M. D., late Emeritus Professor of Anatomy in this Institution.

On motion of Prof. H. V. M. Miller, the following gentlemen were appointed as a committee to draft suitable resolutions in respect to the memory of our distinguished Emeritus Professor of Anatomy, GEORGE M. NEWTON, M. D.—viz: On the part of the Faculty, Prof. L. D. Ford, and on the part of the Class, J. R. Slayton, Alabama; H. A. McKittrick, South Carolina; D. C. Young, Tennessee; E. E. Andrews, Georgia; M. A. Gastin, Texas; M. M. T. Huchingson, Florida; Colin Bethune, North Carolina—whereupon the committee reported the following:

Resolved, That the Faculty and Students of the Medical College of Georgia have heard with profound regret, the melancholy intelligence of the death of GEORGE M. NEWTON, M. D., late Emeritus Professor in this Institution. His long continuance with this College, his distinguished ability as a teacher, his nice sense of honor, his genial and social qualities, his benevolence of heart, his unobtrusive modesty, gained for him in this life our highest admiration, and warmest personal attachment, which renders it peculiarly proper that we give some feeble expression of our sorrow for his death, of our respect for his memory, and our sense of the greatness of our loss.

Resolved, That the exercises of this College be suspended for this day.

Resolved, That we join the procession to the place of interment.

Resolved, That we wear the usual badge of mourning the remainder of the session.

Resolved, That the proceedings of this meeting be recorded in the minutes of this College, and that they be published in the newspapers of the city.

I. P. GARVIN, Chairman.

B. S. ISBELL, Ala.,	} Secretaries.
W. W. PEEL, Ga.,	
W. E. LINK, S. C.,	

The Science and Art of Surgery: being a Treatise on Surgical Injuries, Diseases, and Operations. By JOHN ERICHSEN, Professor of Surgery and of Clinical Surgery in University College, and Surgeon to University College Hospital. An improved American edition, from the second enlarged and carefully revised London edition, illustrated by four hundred and seventeen Engravings on wood. 1 vol., pp. 996 royal octavo. Philadelphia: Blanchard & Lea. 1859. (For sale by Thomas Richards & Son, Augusta, Ga.)

To prepare a complete and yet a convenient and uncumbrous work on Surgery, is, at the present day, one of the most difficult feats of modern literature. Surgery has grown into a vast science which, in order to

present it in its entirety, requires not one but many volumes. The author, therefore, who exercises the best judgment in the selection of his materials, and who embodies in his work the essential parts of *all* its various departments, and yet wastes no space in protracted discussions, is ever the one whose Treatise on Surgery will be found the most useful both to the Practitioner and to the Student of Medicine. Prof. Erichsen has regarded these precepts perhaps more successfully than any writer of the present day. Adding largely to it in the present edition, he has shewn excellent judgment in still keeping his materials within the bounds of a single volume. The numerous wood-cut illustrations, amounting to four hundred and seventeen, give a definite and most graphic view of every thing in which the *coup d'oeil* can aid us—and the descriptions in the text are clear, terse and to the point.

The American Publishers have done full justice to themselves and to this great work, in the style of execution both of the printing and lignographing, and in the present edition they present to the American Profession one of the most complete and comprehensive and yet most convenient works on the Theory and Practice of Surgery to be found in any part of the world. We commend it now, as we have ever done, to the purchase and careful perusal of all Practitioners and Students. Perform no new operation about which you may be doubtful, until you consult Erichsen;—he is reliable.

OUR LIST OF PAYMENTS.—In behalf of our worthy publisher, we thank our readers for the very encouraging list which our cover presents this month. It is wonderful how we advance in our ideas of expenditure, with the extension of our pecuniary resources. Pope, in whose satires we find every human motive and feeling most clearly presented, illustrates this restlessness in a few lines :

“I’ve often wished that I had clear,
For life, six hundred pounds a year—
A handsome house to lodge a friend,
A river at my garden’s end,
A terrace walk and half a rood,
Of land set out to plant a wood.
Well, now I have all this and more,
I ask not to increase my store,
But here a grievance seems to lie,
All this is mine but till I die;
I can’t but think ’twould sound more clever
To me, and to my heirs forever.”

We think we can illustrate this almost as well as Mister Pope:—A few months ago, our friend, Mr. Jeremiah Morris, the laborious, indefatigable publisher of the Southern Medical and Surgical Journal was a most “frugal swain whose only care was to increase his store,” sufficiently to

meet his current expenses. We "baited with honey," and sent our bag round for the collection of subscriptions—they have come pouring in; it has enabled him to procure his paper, ink, type, &c., and a small residue remains, which doubtless he could find many to borrow; but no, he has a better application in view, with the interest of *THE JOURNAL* ever uppermost in his heart; his ambition now points to a *Power Press*, with which he will be able to print more expeditiously, and at less expense and labor, the monthly issues of the Journal. We heartily join him in his laudable desire, as will every one of our readers.

There is yet on his books about \$800 of back subscriptions, which we know, by experience, will be promptly paid *without asking for it*. He only waits the receipt of this amount to add to what he now has on hand, and he will order his power press. Our readers may feel assured, that, with the extension of his facilities, their own interests will be cared for in the preparation of a better and, probably, even a larger and more comprehensive Journal.

Port Wine Enemata as a Substitute for Transfusion of Blood in cases of Post-Partum Hemorrhage.—Dr. H. L. Williams recommends enemata of port wine in cases of post-partum hemorrhage, and records (*British Med. Journal*, Sept. 4, 1858), a case in which he successfully resorted to it. The patient was in the most alarming state of prostration, pulseless at the wrist, with cold extremities, &c. Dr. W. commenced by administering four ounces of port wine with twenty drops of tincture of opium. The patient speedily manifested signs of improvement. In half an hour he repeated the enema, with marked advantage, and the patient was soon out of danger.—[*American Jour. of Med. Sciences*.]

THE CHARITY OF SPEECH.—When every physician and every medical journal is moved by the following impulses, we shall have the millenium of medicine:—

"Can a higher compliment be paid to a man than to say he speaks no ill of any one? And is any man better spoken of by all than he who never opens his mouth to the detriment of his fellow creatures? And does any one in the long run live more happy than he? The charity of speech surpasses that of almsgiving; the latter, even if it be the widow's mite, is rewarded by the feeling the donor experiences, but the latter waits for its reward. The impulse that prompts one to look kindly upon his *brother's sins* of omission or commission, even while living as he would, if he were dead, that prompts to suppress all mention of the evil within him, and readily to acknowledge his good traits, to speak of man with the same delicacy of women, to remember that there is no existing creature without some redeeming trait—this impulse is one of the noblest that actuates the mind, and dwells within the heart. We never meet one who has a kind word for the faults of another, without the mental conviction that he would be the first to lend him a helping hand."—[*Newspaper*.]

SOUTHERN MEDICAL AND SURGICAL JOURNAL.

(NEW SERIES.)

Vol. XV.]

AUGUSTA, GEORGIA, MARCH, 1859.

[No. 3.

ORIGINAL AND ECLECTIC.

ARTICLE VI.

Observations on Malarial Fever. By JOSEPH JONES, A.M., M.D.,
Professor of Medical Chemistry in the Medical College of
Georgia, at Augusta.

[Continued from page 100 of February No.]

CASE XLVII.—American seaman, native of Boston: age 21; weight 150; height 5 feet 10 inches; dark brown hair, brown eyes; muscular system moderately well developed. This is his first trip to Savannah. Has been in Savannah 10 days—during this time has been sleeping at night on the deck of the ship in the open air. The captain compelled all his men to sleep on board the ship, which was lying at the saw-mill, opposite the low, marshy shore. Was taken sick four days ago. The crew consisted of eight—four of the crew slept on deck and the same number in the cabin. The former are now sick, whilst the latter are well.

September 26th, 1857. Tongue dryer than normal, and coated with yellow fur; complexion sallow; pain upon pressure of epigastrium. Has some fever, and appears to be very weak.

R. Sinapism over epigastric region.

R. Sulphate of quinia, grs. v. every three hours, up to grs. xv.

Sept. 27th. Has taken a change for the worse. Has been passing his water in bed and is in a comatose state. When the epigastrium is pressed, exhibits signs of pain. Pulse and respiration accelerated.

R. Blister over epigastric region and sinapisms to extremities.

R. James's powder (pulvis antimonii compositus), grs. xxij.; Calomel, grs. xij.; opium, grs. ij. Mix. Divide into twelve powders, and administer one every two hours.

Sept. 28th, 11 o'clock A. M. The blister has aroused the

nervous system, and the patient is restored to the use of his reason.

R. Continue calomel and opium. R. Neutral mixture.

7 o'clock P.M. The action of the blister has been only temporary, and the patient is now stupid, almost comatose. Pulse 120; respiration 22. Pulse is so feeble that it is with difficulty counted. Tongue coated with yellow fur, dry and rough—the surface feels harsh like the surface of a board. It is evident that the stimulant effect of the blister has vanished, and that the calomel is exerting no beneficial effect.

R. Sinapisms to extremities.

R. Brandy, fʒ viij.; infusion of Virginia snake-root, fʒ viij.; sulphate of quinia, grs. xv. Mix. Administer fʒi. every half hour.

R. Sulph. of quinia, grs. v. every three hours, up to grs. xx.

Sept. 29th, 11 o'clock A.M. Lies in a stupor, with mouth and eyes partially open. When aroused by shaking, answers sluggishly, and in a few moments relapses into a stupor. Teeth coated with sordes. Tongue coated with black and light yellow fur, swollen—edges indented by the teeth—perfectly dry and rough: the surface of the tongue is traversed by several deep cracks. Surface of blister red, raw and dry. The serum which issued from the blister was of a golden color. This patient emits a disagreeable nauseous smell. Has taken 40 grains of sulph. of quinia.

R. Continue brandy, infusion of Virginia snake-root, and sulphate of quinia.

EXAMINATION OF BLOOD No. IX.

2 o'clock P.M. Blood coagulated slowly. Serum of a deep golden color. Nitric acid showed that the color was due to the presence of bile. Reaction of serum, alkaline. Specific gravity of blood 1040; specific gravity of serum 1022.

WATER				SOLID MATTERS			
In 1000 parts of Blood,	833	449		In 1000 parts of Blood,	166	551	
" " " " Serum,	912	386		" " " " Serum,	87	614	
(1) " " " " Liq. Sang.,	910	798		(1) " " " " Liq. Sang.,	89	203	
(2) " " " " " " " "	875	813		(2) " " " " " " " "	124	187	
In Serum of 1000 parts of Blood,				80			

FIXED SALINE CONSTITUENTS,

In 1000 parts of Blood,	-	-	-	-	-	-	6.314
" " Serum,	-	-	-	-	-	-	6.620
(2) " " Liquor Sanguinis,	-	-	-	-	-	-	8.759
" " Dried Blood Corpuscles,	-	-	-	-	-	-	6.595
" " Moist Blood Corpuscles,	-	-	-	-	-	-	1.648
" " Dried Residue of Blood,	-	-	-	-	-	-	37.909
" " " " " Serum,	-	-	-	-	-	-	75.558
" Serum of 1000 parts of Blood,	-	-	-	-	-	-	5.747

1000 PARTS OF BLOOD CONTAINED,				
Water,	-	-	-	833.449
Dried Blood Corpuscles,	85.968	}	Dried Organic Residue,	84.400
			Fixed Saline Constituents,	0.567
Fibrin,	-	-	-	1.450
Albumen, Extractive and Coloring	Matters,	}	Dried Organic Residue,	74.186
			Fixed Saline Constituents,	5.747

1000 PARTS OF BLOOD CONTAINED,			
Moist Blood Corpuscles, 343.872	}	Water, - - -	258.804
		Dried Organic Residue -	84.400
		Fixed Saline Constituents,	0.567
Liquor Sanguinis, - 656.128	}	Water, - - -	574.646
		Albumen, Ext. & Col'g Matters,	74.185
		Fixed Saline Constituents,	5.747
		Fibrin, - - -	1.450

1000 PARTS OF MOIST BLOOD CORPUSCLES CONTAINED,			
Water,	-	-	752.646
Dried Organic Residue,	-	-	245.239
Fixed Saline Constituents,	-	-	1.648

(1) 1000 PARTS OF LIQUOR SANGUINIS CONTAINED,			
Water,	-	-	910.797
Albumen, Extractive and Coloring Matters,	-	-	80.996
Fixed Saline Constituents,	-	-	1.587
Fibrin,	-	-	6.620

(2) 1000 PARTS OF LIQUOR SANGUINIS CONTAINED,			
Water,	-	-	875.813
Albumen, Extractive and Coloring Matters,	-	-	113.064
Fixed Saline Constituents,	-	-	8.758
Fibrin,	-	-	2.209

7 $\frac{1}{2}$ o'clock P. M. The stimulants and sulphate of quinia have excited the chemical changes and aroused the nervous system, and the patient is now restored to the exercise of his intellect. He is still, however, very weak and has a great tendency to sleep. Pulse 98; respiration 18, full. Temperature of atmosphere, 80° F.; temp. of hand, 98°. Skin of head and trunk feels a little warmer than normal, and is slightly moist. Tongue presents the same dry, coated, rough appearance. Reaction of saliva decidedly acid.

R. Mustards to extremities. Continue brandy, infusion of Virginia snake-root and sulphate of quinia. Diet, milk punch and brandy and arrow-root.

Sept. 30th, 2 o'clock, P. M. His intellect is clear, and there is less tendency to sleep, and he appears to be decidedly better. Pulse 80, much fuller; respiration 14. Temperature of atmosphere, 71° F.; temp. of hand, 97. Tongue is still very dry, rough and black in the centre; it appears however, when pressed with the finger, to be somewhat softer.

Urine passed this morning, high colored. Urine passed during the night, several shades lighter, and of the usual color. Reaction decidedly acid; sp. gr. of urine passed this morning 1016. Owing to the weakness of the patient, the whole amount was not collected. Amount of uric acid in 1000 parts of urine, 0.59. Reaction of saliva acid.

R. Continue stimulants, sulph. of quinia and nutritous diet.

October 1st, 1 o'clock, P. M. Says that he feels better and is hungry. Pulse, 90; respiration, 20. Temperature of atmosphere, 73°F.; temp. of hand, 98.75; temp. under tongue, 101°. Complexion very sallow. Tongue slightly moister, cleaner and softer.

Urine of a deep orange color, clear and limpid; reaction acid; sp. gr. 1016. Uric acid in 1000 parts of urine, 0.659.

Oct. 2d, 1 o'clock, P. M. The expression of the countenance is better, and the surface of the blister looks much better. Tongue still coated with dark brown fur, but moister and softer. The sordes around his teeth and the disagreeable smell, are rapidly disappearing. Abdomen tumid. Pulse 88; respiration 18. Temperature of atmosphere, 77°F.; temp. of hand, 102°. Was able to get up and walk across the ward this morning.

R. Continue brandy and snake-root tea and sulph. of quinia, tablespoonful every three hours.

Urine orange colored; sp. gr. 1016. Uric acid in 1000 parts of urine 0.511—reaction of saliva decidedly acid. As in the former examinations, there was scarcely sufficient saliva to moisten the test paper.

Oct. 3rd, 1 o'clock P. M. Has apparently taken a change for the worse. Inclined to stupor; goes to sleep whilst conversing; countenance anxious and distressed. This inclination to stupor may be the effect of the brandy and sulph. of quinia. During the last four days has taken about one hundred grains of the sulphate of quinia. R. Stop stimulants and sulphate of quinia. Pulse 94. Respiration 18. Temperature of atmosphere, 77°F.; temp. of hand, 102°. Bowels are costive. R. Citrate of magnesia and soda powders.

Urine of yesterday deposited a heavy light yellow deposit. Urine just passed, light orange colored, limpid. Reaction acid, sp. gr. 1006. Uric acid in 1000 parts of urine 0.238.

Oct. 4th, 2 o'clock, P. M. Medicine operated slightly. Pulse 94. R. Infusion of Virginia snake-root. R. Tincture of muriate of iron, $\mathfrak{m}x$, three times a day.

Oct. 5th, 2 o'clock, P. M. Anxious expression of countenance; bowels costive; abdomen tumid; tongue a little softer and cleaner, but still much dryer, harder and rougher than normal. Notwithstanding the slight improvement of his strength, there is still an almost complete absence of the secretions of the

mucous membrane of the mouth. Pulse, 90; respiration, 15. Temperature of atmosphere, $74^{\circ}\text{F}.$; temp. of hand, 96° ; temp. under tongue, 103° .

The temperature of the extremities is two degrees below, while the temperature of the trunk is four degrees above that of health. Accompanying this loss of animal heat in the extremities and exaltation in the trunk, there is a rapid, feeble pulse, normal respiration, dry harsh skin, dry mouth, feeble digestion, torpid bowels, sluggish intellect and feeble forces. These facts, taken in connection with the analysis of the blood, show that the malarial poison has produced profound alterations in the constituents of the blood, interfered with the formation of the secretions, interfered with the chemical changes of the blood and nutritive fluids, interfered with the development and correlation of the physical, vital and nervous forces.

The dry harsh tongue, the scanty, acid secretions of the mucous membrane of the mouth, the torpor of the bowels, the high colored acid urine, the dry harsh skin, the feeble circulation in the capillaries of the extremities, the elevation of the temperature of the trunk, the loss of harmony between the actions of the circulatory and respiratory system, all point to profound disturbances in the domain, over which the sympathetic system presides. The sluggish intellect, indicates derangement of the cerebro-spinal system. The feeble forces, point to derangements in both the sympathetic and cerebro-spinal systems.

The fact that the temperature of the extremities is but two degrees below the normal standard, whilst that of the trunk is several degrees above the normal standard, afford evidence that the chemical changes of the organs, tissues and blood, are sufficient in quantity to work the machinery with the accustomed vigor. But the machinery is not worked with the accustomed vigor; the patient is weak, and unable to accomplish any mechanical effort at all corresponding to the chemical changes of the elements and solids. The forces are generated, but they are not properly applied, or they are not properly related to each other, or they are not generated in the right position, or in the proper apparatus. If muscular force is generated by the chemical changes of the elements composing the muscular tissue, and if the nervous force is generated, by the chemical changes of the elements composing the nervous and muscular systems, if the transmission of the nervous excitement is dependent upon chemical changes in the elements of the nerves along which the excitement passes, it is evident that whatever interferes, with those chemical changes, must be attended by either an exaltation, or depression, or aberration of muscular and nervous force. If the colored blood-corpuscles, taken collectively, be an immense gland, which elaborates the materials

for the nutrition and development of the forces of the muscular and nervous systems, then, their destruction by the malarial poison would, in great measure, account for the disturbances in the muscular and nervous systems.

Important questions present themselves. Do the disturbances in the sympathetic and cerebro-spinal systems arise from a direct action of the malarial poison upon one or the other of these systems? Do the alterations in the secretions and excretions, and in the amount and character of the chemical changes and physical forces, depend upon the direct action of the malarial poison upon the organs elaborating the secretions and separating the excretions, and preparing the materials destined to form the elements of the tissues and undergo those chemical changes, by which all the forces are generated? Or, do the alterations of the secretions and excretions depend upon alterations of the blood, which is the great reservoir of materials for chemical change and nutrition? or, do they depend upon a deficiency, or excess, or perversion of nervous influence, which is supposed to influence secretion? A correct solution of these problems is impossible, in the present state of medical science, because the ultimate facts are wanting.

Specific gravity of urine 1006; reaction alkaline after standing 24 hours. Amount of uric acid in 1000 parts of urine, 0.078.

R. Stop tincture of muriate of iron immediately. At 10 o'clock P. M., this night, (12 hours afterwards,) administer calomel, grs. x., followed by castor oil in four hours. If he is weakened by the action of the medicine, administer stimulants freely.

Oct. 6th, 1 o'clock P. M. Medicine operated four times, and has produced great exhaustion. Tongue clean and much moist-er and softer; the moisture of the tongue, however, varies greatly. This morning, at 10 o'clock A. M., it was moist and soft; at 12 o'clock M., it was almost entirely dry, and now, it is moist. Pulse 100, very weak, feels like the vibrations of a spiders thread. It requires time and care to find the pulse, and much more time and care to ascertain correctly its number of vibrations. It appears that I have made a mistake in giving the calomel and oil. His system is so much exhausted that it is doubtful whether he will rally.

R. Brandy and infusion of Virginia snake-root.

R. Compound tincture of gentian, f 3j.; compound tincture of bark, f 3j. Mix, and administer three times a day in a wineglass full of infusion of snake-root.

R. Chlorate of potassa, 3j.; water, f 3 viij. Dissolve and administer during the 24 hours. Diet, mutton soup, boiled rice, brandy and arrow-root; milk punch.

Oct. 7th. 3 o'clock P. M. Looks better. The anxious ex-

pression of his countenance is removed, his intellect is brighter, and his spirits better. Tongue softer and moister than it has been during the sickness. Pulse 92, watery and feeble, but stronger than yesterday; respiration, 18. Temperature of atmosphere, 70·5°F.; temp. of hand, 97°; temp. under tongue 103°.

R. Continue medicine and diet. R. Spirits of Turpentine, 10 drops, four times a day.

Oct. 8th, 2½ o'clock P. M. Says that he feels very weak. Tongue moister and softer; pulse 96, feeble and watery; respiration 16. Temperature of atmosphere, 72·5°F.; temp. of hand, 97·25°; temp. under tongue, 102·5°. Has not had a motion of the bowels since the action of the calomel.

R. Phosphate of soda, ʒiij.; water, fʒv. Dissolve, and administer in two doses. Continue tonics, stimulants and nutritive diet.

Oct. 9th, 2 o'clock P. M. Complains of great weakness. His sallow complexion, anæmic lips and gums, feeble pulse, and feeble forces, demonstrate that his feelings are founded in the effects of the malarial poison.

Pulse 92; respiration 16. Temperature of atmosphere, 73°F.; temp. of hand, 86°; temp. under tongue, 103°. The hand in which the thermometer was placed was carefully surrounded with the non-conducting blanket. Notwithstanding this favorable arrangement for the accumulation and manifestation of animal heat, the thermometer during the period of one hour indicated a temperature of 86°, which is 12 degrees below the normal standard. The temperature of his trunk, on the other hand, is four degrees above the normal standard and 17 degrees above that of the extremities. Here we have a disturbance of the temperature, analogous to that of the well-marked chill of malarial fever, and yet the patient does not complain of the sensation of cold, and there is no shivering of the muscles, and the respiration is normal in frequency, and the violent action of the respiratory muscles, characteristic of a well marked chill, is absent. The feeble pulse, on the other hand, attended with an elevation of the temperature of the trunk, and a depression of the temperature of the extremities, corresponds with the phenomena of a well-marked chill, and indicates a deficient circulation of blood, and an arrest of chemical action in the capillaries of the extremities, and at the same time, an accumulation of the blood and an increase of chemical change in the capillaries and blood-vessels of the large organs of the trunk. The increased heat in the trunk during the cold stage, may arise, in part, from the chemical changes in the blood-corpuscles, resulting in their destruction, and in the liver, resulting in the alterations of its secretions and nutritive fluids. The heat thus generated by the destruction of the blood-corpuscles, by the alterations of the other ele-

ments of the blood, and by the alterations of the secretions and nutritive fluids of the liver, induced by the presence of an extraneous poisonous body, would be generated in the wrong position, and by a wrong collocation, action and reaction of elements, and would, so far from adding to the forces, produce derangement and interfere with the carefully adjusted balance of the forces. It is a well established truth in physiology, that vital phenomena are manifested by matter having a definite chemical and physical constitution, and whatever alters the arrangement of the matter destroys the essential conditions of the manifestation of the vital phenomena. The study and investigation of man should be, not what are the essences of the physical, chemical and vital forces, but what are the essential conditions and laws of their existence and manifestation.

Whilst the low temperature of the extremities, accompanied by a feeble rapid pulse, is a very dangerous symptom, still the condition of the patient would be much worse, if the temperature of the trunk corresponded with that of the extremities. A definite temperature of the trunk, is absolutely essential to the maintenance of life in man. An elevation, or depression of the temperature of the great organs of the trunk, of only a few degrees, is attended with death; because this fixed temperature is one of the essential conditions for the conduction of those chemical processes by which the forces are generated; and by which, under the guidance of the vital principle, poisonous compounds are removed, and new matter elevated into a state of force and rendered suitable for the habitation of the vital principle by the action of the forces of the sun through the apparatus of the vegetable kingdom, is introduced into the position of that chemically altered and removed: and by which that constitution of matter is preserved which is indispensable for the existence of the vital principle and the manifestation of vital phenomena, by the correlation of the chemical and physical forces acting under the guidance of the vital principle, upon and through special apparatus. Whilst even a moderate elevation or depression of the temperature of the great organs of the trunk is necessarily attended by the generation of abnormal compounds, or by a complete arrest of the chemical and physical and nervous actions; the elevation or depression, even to a great extent, of the temperature of the extremities, is not, on the other hand, attended by such serious consequences, because these parts of the body are destined to act as mere servants to the spiritual nature, as mere organs of locomotion and mechanical action, and not as chemical laboratories for the preparation of the nutritive elements, and of the matters destined for the development of the forces. Nevertheless, as the forces which work the muscular system, are developed by the chemical changes of the

structures of the muscles, and of the compounds and elements of the surrounding blood; and as the excitement and transmission of the nervous force, to the muscular system, is the result of the chemical changes of the elements of the nerves and probably of the muscles; it is evident that a reduction or elevation to any great extent, of the temperature of the extremities, must also, but in a much smaller degree, interfere with the chemical changes going on in those muscles and with the correlation of the chemical, physical and nervous forces. *The development of the muscular and nervous forces, depends upon the constitution of the muscular and nervous apparatus, and a free supply of oxygen (the great agent of chemical change), and of the nutritive and force generating elements of the blood.* In the case before us, the muscular and nervous system appear to be normal in constitution, whilst the blood and oxygen are wanting.

To restore the action of the muscular and nervous systems, and prevent the generation of noxious compounds by the reduction of temperature, we must restore the circulation of blood and the distribution of oxygen. Acting upon these principles, I endeavored to arouse the circulatory, respiratory and nervous systems, by sinapisms.

Applied large mustard plasters to the extremities.

In 10 minutes after the application of the mustards, the temperature of his extremities had risen six degrees (from 86° to 92°), and his pulse had become fuller and increased eight degrees, (from 92 to 100 beats).

In half an hour after the application of the mustards, the temperature of the extremities had risen sixteen degrees, from 86° to 102° , and the pulse had increased 12 beats to the minute. During these changes, the respiration and the temperature of the trunk has remained uniform. The elevation of the temperature from 86° to 92° during the first 10 minutes, was more rapid than the subsequent elevation during the succeeding 20 minutes, from 92° to 102° . After reaching this temperature, the thermometer indicated a stationary temperature, both in the hand and under the tongue, and at 8 o'clock P. M., five hours after these observations, the pulse was 94; respiration 16. Temperature of atmosphere, 70° : temp. of hand, 102° , and under tongue, 103° F.

Here we see, that although the frequency of the pulse has been reduced, and it has returned back to within two beats of what it was when the temperature of the hand was only 86° , still the temperature of the hand is 102° . The pulse has increased in volume, and hence the increased elevation of temperature is due to the increased circulation of blood. It is evident that the action of the mustards has not been evanescent. The following table will exhibit in a clear light the changes induced by the revulsives.

	Before the application of the sinapisms.	10 min. after application of sinapisms.	30 min. after application of sinapisms.	5 hours after application of sinapisms.
Pulse,	92	100	104	94
Respiration,	16	16	16	16
Temp. of Atmosphere,	73° F.	73° F.	73° F.	71° F.
" of Hand,	86°	92°	102°	102°
" under Tongue, . . .	103°	103°	103.2°	103°

The restoration of the circulation and chemical changes in the capillaries of the extremities was attended by a subsidence of the twitching of the tendons, by a disappearance, in a great measure, of the feelings of exhaustion, by an increase of the secretions of the mucous membrane of the mouth, tongue and fauces, and by an increase of muscular and nervous force. The patient says, that the mustards have made him feel much stronger.

In this experiment the volatile stimulant, oil of mustard, has not simply called forth the nervous force existing in the system, but has produced a permanent exaltation of the nervous and physical forces. This was accomplished by the absorption of the stimulant principle of the mustard, and its distribution, by the blood-vessels, to all parts of the sympathetic and cerebro-spinal nervous systems. The action of the heart was thus increased, and the absorption and distribution of oxygen, promoted by an acceleration of the general and capillary circulation.

Before the action of the stimulant, the chemical changes in the capillaries of the extremities were slow and small, because the circulation in the capillaries of the extremities was sluggish, and the amount of oxygen and blood supplied to the muscles and nerves of the extremities insufficient to sustain vigorous chemical changes.

When the circulation was aroused, the chemical actions in the extremities were correspondingly increased, because the elements of these changes were presented in abundance, and with rapidity. As the muscular and nervous forces depend upon chemical change, the excitation of the chemical changes were necessarily attended by an increase of muscular and nervous force. Thus the increased supply and distribution of the elements of chemical change, led to an increase of nervous and physical force, and this nervous and physical force, in turn, led to a still farther excitement of the machinery devoted to the absorption and distribution of the oxygen, the great element of chemical change. Hence the excitement was permanent.

R. Carbonate of ammonia, grs. x., every four hours.

R. Oil of turpentine, ℥x., every three hours. Continue stimulants, tonics and nutritious diets.

Oct. 10th. Much better. Temperature of the extremities corresponds with that of the trunk.

Urine has a strong smell of turpentine. Amount passed during the last 18 hours, grains 12168; sp. gr. 1014—deep orange color, inclining to red; reaction decidedly acid; slight turbidity, but no deposit. Grs. 12168 of urine passed during 24 hours, contained urea, grs. 209·520; uric acid, grs. 12·60. 1000 parts of urine contained, urea 17·212; uric acid 1·035.

4 o'clock P. M. Appetite good; tongue moist. Pulse 100, much stronger than yesterday before the application of the mustard; respiration 16. Temperature of atmosphere, 69·5°F.; temp. of hand, 101°; temp. under tongue, 102·5°.

Urine high colored, reddish brown; sp. gr. 1016; reaction decidedly acid, clear, limpid. Amount passed during the last 5 hours, grs. 4562. R. Continue.

Oct. 11th. Continues to improve—is able to walk about the ward.

R. Citrate of iron, grs. ij.; sulph. of quinia, grs. iij. Mix. Administer three times a day.

R. Continue stimulants, tonics and nutritious diet—oysters, soft boiled eggs, milk punch, &c.

Oct. 17th. Has continued to improve and is now able to walk in the hospital grounds. He is still, however, pale, sallow and very weak. Pulse 76, full and strong; respiration, 14. Temperature of atmosphere, 67°F.; temp. of hand, 97·25; temp. under tongue, 100. Reaction of saliva very slightly acid; during his sickness it has been decidedly acid.

I have been informed, upon reliable authority, that one week after the admission of this patient into the hospital, his captain weighed anchor and sailed for New York. The crew consisted of the men whom he had compelled to sleep on board the vessel lying along the low, marshy shore. Several of the crew were unwell at the time of sailing. Before getting well out to sea, the captain and the whole crew were taken sick. In a few days, there was not a man with strength to navigate the ship. Fortunately a small vessel perceived their signal of distress, and towed them into Darien. Before reaching this port, the captain and five out of seven of the crew, had died. There were but two remaining of eight, and these were extremely ill. The severity of the disease, in this case, resembles the accounts of African fever.

From the report of this case, which came under our own observation, it is evident that any carelessness or neglect would have been attended by a fatal termination. Notwithstanding the administration of the most active tonics and of the most nutritious diet, this patient exhibited for a great length of time, the effects of the bilious remittent fever, in his pale, sallow, anæmic countenance, pale lips and gums, and tottering gait.

CASE XLVIII.—English seaman: height 5 feet 7½ inches; weight 145 lbs.; black hair, black eyes; dark complexion; age 46. Well built, muscular man. First trip to Savannah. Has been in this port three weeks, and during this time has slept on board ship.

October 13th, 1857, 11 o'clock A. M. Says that he was taken sick two days ago, with pain in the head and bones and loss of appetite. Last night, between 8 and 9 o'clock, had a chill, which lasted for one hour, and was succeeded by fever, which remitted this morning, with a profuse perspiration. Tongue, pale and clean. Bowels have not been moved for three days.

R. Calomel, grs. xij.; sulph. of quinia, grs. vi. Mix. Administer immediately, and follow with castor oil in four hours. As soon as the medicine has operated once, give 5 grs. of the sulphate of quinia every three hours, up to grains xx.

Oct. 13th, 11 o'clock A. M. The medicine operated freely. Has taken xxvi. grains of the sulphate of quinia. The patient is weak and stupid—pays no attention to inquiries, even when the voice is greatly elevated. When aroused by violent shaking, answers incoherently, and in a few moments relapses into a stupor. Great tenderness upon pressure of epigastric region—pressure here arouses him, and he cries out. Pulse 120, very feeble, so feeble that it is with difficulty that it can be felt, and with still greater difficulty that its number of beats to the minute can be ascertained. Respiration 40, thoracic, labored. Tongue coated with yellow fur, moist and soft. Skin warm and moist—in a perspiration. Administered fʒij. of a mixture of equal parts of brandy and infusion of Virginia snake-root. As soon as the fluids entered the stomach, they were ejected again with great violence, over the table and the neighboring bed. The brandy and infusion of snake-root had mingled with the contents of the stomach, and were of a green color. The act of vomiting was performed, apparently, without any effort. There was no retching previous to the ejection of the fluids: they came up in a stream.

R. Mustards to extremities and interior surface of thighs, and a blister, 6 inches by 5, over the epigastric region.

R. Lime water, fʒij.; milk, fʒij.; acetate of morphia, fʒj. Mix. Administer immediately, and repeat every half hour, until his stomach is settled. As soon as the stomach will retain this mixture, administer sulphate of quinia, brandy and infusion of Virginia snake-root, freely.

8 o'clock P. M. More sensible than this morning, but weak and restless. Breathing not so accelerated and labored. Pulse 120, still very feeble. Blister is drawing.

R. Sulph. of quinia, grs. v. every three hours, up to grs. xxx. If his stomach rejects this, give the following injection:

R. Sulphate of quinia, grs. x.; starch, grs. f3ij.; tincture of opium, ℥xv. Mix. Repeat every three hours, until xl. grains of the sulphate of quinia have been administered.

R. Administer brandy, infusion of Virginia snake-root and spirits of mindereri, freely.

Oct. 14th, 11 o'clock A. M. Says that he is much better. Intellect clear—answers coherently. He is much more quiet. Blister has drawn well—serum golden colored. Pulse 96, much stronger and more regular, but still feeble. Respiration 24. Tongue soft and moist, superior portion coated with white fur. Under the action of sulphate of quinia and stimulants, the pulse has diminished in frequency and increased in volume, and the respiration has diminished in frequency, and the spasmodic action of the respiratory muscles have ceased, and the nervous system has been aroused, and the dull intellect has resumed its normal actions. *If stimulants had been withheld, it is highly probable that this patient would have died*, from complete exhaustion of the nervous and vital powers, consequent upon the action of the malarial poison, either directly upon the nervous ganglia of the sympathetic system, presiding over the respiration and circulation; or primarily upon the cerebro-spinal system, and secondarily upon the sympathetic system by reflex action; or by such changes in the elements of the blood (especially of the blood-corpuscles) as resulted in the perversion of the nutritive elements of the nervous ganglia; or by the generation of compounds in the blood and in the secretions of the liver, spleen and alimentary canal, which acted as poisons upon the sympathetic and cerebro-spinal nervous system; or by the simultaneous action of the poison in all these different ways.

R. Continue brandy and infusion of Virginia snake-root. Stop sulphate of quinia. Diet, milk punch and arrow-root.

Oct. 15th, 11 o'clock A. M. Continues to improve. Has no pain anywhere. Tip of tongue clean, and redder than normal, posterior portion coated with patches of black fur. Pulse 88; respiration 16; temperature of trunk normal; reaction of saliva neutral. R. Continue stimulants and nutritious diet.

8 o'clock P. M. Continues to improve. Up to the present time, owing to the action of the medicine, the congestive chill, delirium and weakness, it has been impossible to obtain any urine for analysis. Urine passed this afternoon orange colored. Amount passed during the last 24 hours, grs. 5050; calculated amount for 24 hours, grs. 15,150; sp. gr. 1010; reaction acid.

ANALYSIS LXIII.	Grs. 5050 of Urine excreted during 8 hrs, contained grs.	Grs. 15150 of Urine calculated for 24 hrs. contained grs.	1000 parts of Urine contained, -
Urea,.....	129.495	338.395	25.642
Uric Acid,.....	3.250	9.750	0.643
Fix'd Saline Constituents,	8.500	25.500	1.683

Oct. 16th, 11 o'clock A. M. Continues to improve. Tongue soft, moist and normal in appearance. Reaction of saliva decidedly acid. His appetite is good. Pulse 84; respiration 15. Urine passed during the night, of a deep orange color; sp. gr. 1014; reaction, when first voided, acid—after the lapse of 15 hours, slightly alkaline. Simultaneously with the change from acid to alkaline, there was the formation of numerous well formed prismatic crystals of triple phosphate. When the urine was held in the sun-light, these crystals sparkled like particles of silver. 1000 parts of urine contained urea 24·761, uric acid 0·029, fixed saline constituents 1·773.

R. Continue brandy and infusion of Virginia snake root, and nutritious diet.

R. Quassia and soda.

Oct. 17th. Greatly improved; dressed and walking about the hospital yard. Pulse 72; tongue, skin, respiration and temperature normal. Complains of nothing but weakness.

The captain of the vessel to which this seaman belonged, has just informed me that his crew consisted of eight men and a woman (the cook). Four of the men and the cook slept on board of the ship, lying in the Savannah river. Every one were taken sick, with malarial fever, and entered the hospital. Of the four seamen who slept on shore, two were taken sick; their attacks, however, were much lighter than those who slept on board the ship.

CONCLUSIONS.

1. This case illustrates the necessity of watching the action of purgatives in malarial fever.

I have treated numerous cases of malarial fever, both with and without purgatives, and from a careful comparison of the results of the different modes of treatment, have found that the disease yields much sooner to the action of the sulphate of quinia, after the action of a purgative. The purgative which I have almost invariably employed at the commencement of the disease, is calomel. It was administered in doses of from *vij.* to *xij.* grains, conjoined with from *v.* to *vij.* grains of the sulphate of quinia. The liver and portal circulation, and perhaps the spleen, to a certain extent, are relieved by the action of the purgative, and the sulphate of quinia is absorbed much more readily and rapidly. The sulphate of quinia appears to affect the head much less after the action of a purgative. I have frequently observed, that in both intermittent and remittent fever, the action of calomel on the alimentary canal, and liver, especially when accompanied by, and followed with large doses of sulphate of quinia, was attended with a relaxation of the hard, dry skin, an increase of the secretions of the dry, red mucous membrane of the tongue and mouth, and a relief of the cerebral symptoms.

The purgative by no means cures the disease. This has been clearly demonstrated by Cases xxviii., xxxix., xl., xli., xlii., xliii., xlvii. The purgative simply excites the alimentary canal to eliminate and throw off offending matters, and relieves the congestion of important organs, and thus equalizes the circulation, promotes secretion, and secondarily relieves some of the nervous phenomena. If the patient was left thus without farther treatment, the malarial poison would still continue its work unchecked. The purgative "prepares the system" for the action of sulphate of quinia and stimulants.

In the administration of purgatives in malarial fever, however, the practitioner should always bear in mind the important fact, that there are certain cases, as the present one, and certain others, already reported, or to be examined hereafter, in which purgatives will produce, in conjunction with the malarial poison, a sudden and dangerous depression of the system. It is important that the practitioner should study carefully the indications for and against the employment of purgatives.

I will state my experience in the following propositions:—

(A) *Whenever there is a full, rapid, bounding pulse, rapid respiration, and corresponding chemical change and development of heat, whether the tongue be red or pale, dry or moist—whether the skin be dry or moist—whether the intellect be clear or clouded, a moderate dose of calomel, especially if it be mixed with sulphate of quinia, will prove highly beneficial, and expedite the subsequent action of the sulphate of quinia, and hasten the termination of the disease.*

(B) *Whenever there is a feeble, rapid pulse, and rapid thoracic respiration, and no corresponding elevation of temperature, (in many cases a great depression,) with or without a dry, red tongue, with a dry, harsh skin, or with a cold, clammy sweat, with or without cerebral disturbance, with or without restlessness, purgatives should be rigidly avoided.*

(C) *Whenever there is a marked want of cöordination between the actions of the circulatory and respiratory systems, and the chemical changes and consequent development of the physical and nervous forces, purgatives should be avoided.*

(D) If purgatives be administered without being followed with sulphate of quinia, they act in conjunction with the malarial poison, by diminishing the amount of the blood and depressing the forces.

(E) If purgatives be administered repeatedly, with or without sulphate of quinia, they may convert a case of simple intermittent or remittent fever, into one of congestive fever.

(F) The best purgative is calomel.

(G) The proper time for the administration of the purgative is at the commencement of the disease.

(H) After the free evacuation of the intestinal canal, the purgative should not be repeated.

(I) The action of the purgative, in all cases of malarial fever, should be carefully watched, and if there is any depression of the forces, stimulants and sulphate of quinia should be immediately and liberally administered, and sinapisms or blisters applied. Carbonate of ammonia is one of the most valuable stimulants in these cases.

2. The tongue did not present the dry, harsh, red appearance, so common in these severe cases.

I have observed that the dry, red tongue is more common in the first, than in the second, or succeeding attacks of malarial poison. This patient stated that he had a severe attack of fever several years ago on the coast of Africa, at the mouth of the river Sierra Leone—says that this attack was similar to the present one. He was out of his head, and no hopes were entertained of his recovery. The fever was of a malignant type. The crew of the ship was composed of eight strong, active men, and out of this number six died. It is highly probable that the disease was malarial fever. It is reasonable to suppose that this severe attack of malignant malarial fever left a permanent impress upon his constitution, and influenced the symptoms of the present attack.

In attempting to account for the different manifestations of disease, we have not, in the present state of science, access to all the data, such as original constitution, previous habits, and previous diseases.

It is probable that the course of severe diseases is always modified by the constitution, diet, occupation and previous habits, whether virtuous or vicious, temperate or intemperate, and by previous diseases, and by the relations of the individual and his ancestors to the climate and soil. We know that in a body of strong, healthy men, exposed to precisely the same sources of malarial disease, we may have manifestations of disease, from a slight febrile excitement, scarcely deviating from the condition of health, down to the most malignant type, commonly called congestive fever.

If all have been alike exposed upon the same small ship to the same poison, whence this difference?

The difficulty and complexity of this problem, may be comprehended, when we state that amongst many other things, its solution would demand, a knowledge of the previous history of the physical, chemical, physiological and moral influences of soil and climate and disease upon the ancestors and even upon the races—would demand a knowledge of all hereditary tendencies, peculiarities of temperament and idiosyncrasy—would demand, a knowledge of the relative activity and perfection, of the individual organs and apparatus, and of the relations of these to each other—would demand a knowledge of the relations

of the vital force to the matter of each organ and tissue and apparatus, and to the morbid agent or agents—would demand a knowledge of the action and reaction of the morbid matter upon the different forms of organized structure, and the consequent derangement of the physical, nervous, intellectual and moral phenomena—would demand a knowledge of the relations of chemical action to the development of the physical and nervous forces, and the action of the intellectual and moral faculties—would demand a knowledge of the correlations of the physical, vital, nervous, intellectual and moral phenomena—would demand a knowledge of the relations between physiological phenomena and the phenomena of the exterior universe. Every candid man will admit that the solution of such a problem is impossible at the present time, because the facts are wanting; and they will be long wanting, owing to the extreme complexity of the phenomena. *A thorough knowledge of pathological phenomena necessarily includes a knowledge of the relations of all the phenomena of the universe.* The dignity and glory of a science should certainly depend upon the multitude and complexity of its phenomena. We hope, however, that the day will come when the science of medicine shall be founded upon the immovable basis of inductive philosophy, and the world be compelled to recognize the truth, that the solution of the problems of medicine, requires a higher exercise of the reasoning faculties than the solution of the most complicated and difficult problems in physical and chemical science—a higher exercise of the reasoning faculties, than the solution of even the grandest problems of astronomy.

CASE L.—American seaman: height 5 feet, 9 inches; weight 160 lbs.; stout, well built; large chest; brown hair; bronzed complexion; bilious temperament; age 45. Has been in Savannah three weeks. Was taken with a chill, Oct. 8th, at 12 o'clock M., which lasted one hour, and was followed by fever, which continued without remission for eight hours. On the 9th inst. (the next day) had no chill.

Oct. 10th, 1.30 o'clock P. M., 1857. Entered the hospital this morning, at 10 o'clock A. M. At 12 o'clock M., the chill came on. The chill was well-marked—rapid small pulse; rapid thoracic respiration; shivering, quivering muscles; high temperature of the trunk, and low temperature of the extremities. The chill lasted one hour and twenty minutes. Nov. 1st, 3 o'clock P. M. The shivering has ceased, and the circulation in the capillaries is more vigorous and the difference between the temperature of the trunk and extremities less.

Pulse 130, full; respiration 46, thoracic. Temperature of atmosphere, 68°5F.; temp. of hand, 100; temp. under tongue, 106.

The difference of temperature between the trunk and extremities, shows that the relations between the general and capillary circulations, have not as yet been completely established.

Tongue perfectly dry and feels rough under the finger like sand paper. Those portions which are not coated by yellow fur, are of a bright red color. Pressure over epigastric region causes some pain. Has pain in his chest and a very bad cough; says that he has suffered with a cough for one month, and three weeks ago, "spit blood"; complains of pain in his bones; has taken no medicine.

R. Calomel, grs. xii.; sulph. quinia, grs. vi. Mix and administer immediately and follow with castor oil in four hours. R. Neutral mixture. As soon as fever remits, give 5 grs. of the sulphate of quinia every three hours, up to grs. xxv.

8 o'clock P. M. Febrile excitement is declining; skin in a good perspiration, has no pain anywhere, and is very comfortable. R. Commence with the sulphate of quinia immediately.

Oct. 11th, 11 o'clock A. M. Severe vomiting commenced last night at 11 o'clock P. M., and has continued unchecked, up to 4 o'clock A. M., when the nurse administered a mixture of milk, lime water, and acetate of morphia, which has in a great measure, checked the vomiting. 26 grains of the sulphate of quinia have been administered since 8 o'clock P. M. Only 11 grains have been retained. Says, that the calomel and oil operated immediately, and he was upon the night chair, almost the whole night. The discharges appear to have been serous fluid, colored with bile. Says, that he has always been greatly affected by cathartics, even the smallest doses have produced violent purgation followed by great exhaustion. I was not aware of this idiosyncrasy, when the medicine was administered.

Now his extremities are covered with a cold clammy sweat, and he is completely exhausted. During the action of the medicine, he was almost senseless from the great prostration consequent upon the violent purgation and vomiting. Pulse, 94; respiration 22. Temperature of atmosphere, 71°F.; temp. of hand, 79°; temp. under tongue, 97°.

The temperature of the extremities is 19 degrees below the normal standard, whilst the temperature of the trunk is only 2 degrees below that of health. The pulse is accelerated, 34 beats to the minute. The respiration is but slightly accelerated. The temperature of the extremities and trunk do not correspond to the increased action of the circulation and respiration.

This remarkable reduction of the temperature of the extremities and trunk, is attended by a complete prostration of the forces.

The respiration is sufficiently rapid and full to introduce large quantities of the great element of change oxygen; and the action

of the heart is sufficiently rapid, but not sufficiently powerful, to distribute the elements of nutrition and chemical change, in the capillaries of the extremities. The pulse is full and the circulation in the capillaries of the extremities exceedingly sluggish. Here we have a condition of the extremities, resembling that of a well-marked chill. The elevation of the temperature of the trunk, and the shivering and quivering of the muscles, characteristic of the well-marked chill, however, are absent. The temperature of the trunk is absolutely lower than that of health, notwithstanding the acceleration of the respiration and circulation. This disturbance of chemical action, this disturbance of the physical forces, this prostration of the nervous and muscular systems, are, without doubt, due to the simultaneous actions of the purgative, and malarial poison. Here we have an instance of vomiting and purgation producing such a disturbance of circulation, respiration and chemical action, and such a prostration of the muscular and nervous systems, that a simple case of intermittent fever is converted into what is ordinarily called, congestive fever.

The phenomena of this patient during the febrile excitement, were such as warranted the administration of calomel. The rule laid down upon a former occasion, did not, however, hold good, on account of the idiosyncrasy of the patient.

Administered stimulants and sulphate of quinia. His stomach is so irritable that it will not retain these medicines. Sinapisms have been applied to the extremities; bottles of hot water applied to feet and legs. The mustards have been very slow in their action, producing but little or no coloration of the skin, after the lapse of half an hour. They remained on for three quarters of an hour, before the skin was decidedly reddened. After the action of the mustards, for three quarters of an hour, the temperature of his hand is 88° , and that under the tongue $97\frac{3}{4}^{\circ}$. The temperature of the extremities has risen 9° , whilst that of the trunk, has risen only $\frac{3}{4}$ ths of a degree. The action of the stimulant principle of the mustard, has been to excite the general and capillary circulation, through the sympathetic nervous system. This excitement has been attended by a more rapid distribution of the elements of nutrition and chemical change. These increased chemical changes have been attended by an increased generation of the physical, muscular and nervous forces. The increase of chemical change, the increase of physical force, is attended by a rectification of the aberrated phenomena of the sympathetic and cerebro-spinal nervous systems. The restlessness, the feeling of complete exhaustion and prostration, and the vomiting, have in great measure disappeared. The stomach is now able to retain stimulants and sulphate of quinia.

R. Continue sulphate of quinia, grs. v. every three hours, up to grs. xl. If the stomach rejects the sulphate of quinia, administer 10 grs. by the rectum, combined with starch and tincture of opium, every three hours. Continue stimulants and infusion of Virginia snake-root.

Urine of a brownish red color—sp. gr. 1014; reaction decidedly acid, even after standing 48 hours. When treated with hydrochloric acid, the urine was changed to an almost black color. After standing 48 hours, there was no deposit. Uric acid in 1000 parts of urine, 0.0197. It was impossible, on account of the severe purgation, to determine the whole amount of urine excreted.

Oct. 12th, 12 o'clock M. Says, that he rested well during the night, and feels better, but is still very weak. Has vomited three times this morning. The cold clammy feeling of his skin, has disappeared and the patient appears to be decidedly better. Tongue red at tip, and pointed; papillæ enlarged and distinct. Pulse 100, much fuller and stronger than during the state of prostration; respiration, 30, quick, but gentle; does not resemble the full, labored, thoracic respiration of many cases of congestive fever. Temperature of atmosphere, 74°F.; temp. of hand, 100.75; temp. under tongue, 101.20. This observation demonstrates that the increased distribution of blood and oxygen, has been attended by a decided elevation of temperature. Whenever there is an imperfect capillary circulation, whenever there is a deficiency of the elements of nutrition and chemical change, there will we have feeble forces, and aberration of muscular and nervous action. The temperature, the muscular force and the nervous force, depend absolutely upon the chemical changes of the elements of the living organism, which have been elevated into a state of force, by the action of the forces of the sun upon special apparatus, or rather upon a great laboratory, the vegetable kingdom. The rapidity of the chemical changes, which develop the forces of the machinery, depend first, upon the supply and distribution of materials capable of entering into the constitution of the organs, tissues and apparatus; secondly, upon the supply and distribution of materials capable of undergoing chemical change, within and around the machinery, and thus generate the forces in positions advantageous for their application; thirdly, upon the replacement of the chemically altered matter which once formed part of the apparatus (machinery), by new matter; fourthly, upon the removal of the products of chemical change, which derange chemical action—first, by occupying positions in the apparatus which should be occupied by matter in a state of force, and not by matter which has lost the amount of force originally received from the sun; secondly, by inducing chemical changes in the wrong position in parts

of the organism, where the forces resulting from these chemical changes cannot be applied, and thirdly, by a direct poisonous effect upon the organs, tissues, and apparatus, especially upon the nervous system, which keeps up a communication between all parts of the system, and controls in a great measure the distribution of the elements of nutrition and chemical change, by controlling the action of the respiratory and circulatory apparatus. The supply and distribution of the materials of nutrition and chemical change, depend first, upon the perfection and action of the vegetable apparatus, and secondly, upon the perfection and action of the animal digestive circulatory and respiratory apparatus, related and coordinated by the nervous system. The study of the animal kingdom, as a whole, demonstrates that the perfection and action of the respiratory and circulatory systems may be taken as an index of not only the physical and chemical changes of the organized fluids and solids, but also of the development and perfection of the organs and tissues and apparatus, and of the activity and intelligence of animals. The action of the respiratory and circulatory apparatus, the coordination of this action, with the action and wants of the muscular and nervous systems, and of all these organs and tissues and apparatus, is guided by the nervous system, in which a special force is generated—excited and guided by nervous force, but not carried on by nervous force, independent of chemical change. Chemical change in the organs and apparatus, and chemical change in the nervous systems, is the source not only of heat, but of muscular and nervous force, and of all the forces generated in the animal economy. *The generation of any force—vital, nervous, chemical or physical, in the animal economy, independent of antecedent force, would destroy the great law upon which the stability of the universe rests, that force is indestructible—would destroy the great law that action and reaction are equal.* All the forces in the animal economy are generated by chemical action. The various organs and apparatus are simply arrangements for the preparation of materials suitable for chemical change, and for the application of the forces generated by chemical change. *According to this view, the action of the vital force, like that of the intelligence, is limited to a guidance and direction of the forces with which the Creator has endowed all matter.* The action of the vital principle upon matter, like that of the intelligence, does not consist, either in a creation of matter or in a direct movement of matter, independent of the forces of matter, but in the mere guidance and application, of the forces of matter, so that definite forms are developed from formless matter, and definite results accomplished. *According to this view, the vital principle and the intelligence, cannot create force, any more, than they can create matter.* Their influence is limited to an excitement and application of the forces

of matter. We judge of the influence of one just as we judge of the influence of the other. The complicated machine points to the existence of an intelligence distinct from matter, which has so applied the forces of one portion of matter, that another portion has been moulded into definite shapes and formed into definite apparatuses, capable of accomplishing definite results when acted upon by forces generated and applied in the right manner. We infer the existence of the intellect by the results of its application of the forces of matter. In precisely the same manner, do we infer the existence of the vital principle. The vital principle directs the forces, resulting from the chemical changes of one part of matter, in such a manner, that surrounding matter is fashioned, moulded into definite forms and apparatuses, destined to accomplish definite results. This apparatus cannot be worked by the vital principle, independent of chemical change, any more than a watch will run, or any machine accomplish various mechanical effects, without a supply of exterior force, or a steam engine accomplish mechanical effects, without the development of force by the chemical changes of matter, which has been elevated into a state of force (placed in a state capable of undergoing chemical change), by the forces of the sun.

The development and structure of the vegetable kingdom,—the development and structure and actions of the most simply constructed animals—the appearance of the nervous system in the animal kingdom, and in the foetus of the higher animals, subsequently to the grouping of the atoms of formless matter into definite forms and apparatuses; the formation of the digestive and circulatory apparatus before the formation of new cells and nervous systems, demonstrate unequivocally, conclusively and absolutely, that development, nutrition and the direction of the forces of one part of matter, to the fashioning of another part, are under the guidance of the vital principle—demonstrate unequivocally, conclusively and absolutely, that the nervous system itself is developed, and its perfection maintained under the guidance of the vital principle. The nervous system, is the last and best work of the forces of matter directed by the vital force; and is destined to connect together and influence the various organs and apparatuses; and is destined to regulate secretion and excretion, and the consequent development of force; and is destined to excite and control the actions of the dynamic muscular apparatus, not by the possession and emission of a peculiar force generated *de novo*, but rather by a modification of physical force generated by the mutual chemical reactions of the elements of the blood and nervous systems. The truth of this proposition is conclusively demonstrated, by the fact, that an arrest of chemical action is immediately attended by an arrest of nervous and muscular force.

During the last 24 hours, has taken and retained, 25 grains of the sulphate of quinia. R. Continue stimulants. Diet, wine whey and arrow root.

Urine orange colored; sp. gr. 1020; reaction decidedly acid, and remained so longer than 60 hours. After standing 50 hours, there was a slight deposit of epithelial cells, mucous corpuscles and cylindrical casts of the tubuli uriniferi. Amount of urine collected during the last 24 hours, grains, 6120. The patient affirms that this was the whole amount passed during the last 24 hours. When the urine was evaporated to the consistence of a syrup, and treated with nitric acid, there was a powerful effervescence, and the urine assumed a dirty, brownish yellow color, and the nitrate of urea, presented a brownish black color, and imperfect crystalization. When the urine was concentrated by evaporation, it assumed a brownish black color. When the unconcentrated urine was treated with hydrochloric acid, it assumed a dark mahogany, almost black color. The solid matters of the urine appeared to consist principally of the coloring matters.

ANALYSIS LXIV.	Grs. 6120 of Urine, collected during 24 hours, contained grs.	1000 parts of Urine contained,
Urea,.....	41.960	6.822
Uric Acid,.....	.060	0.009
Fixed Saline Constituents,	43.800	7.156

This examination of the urine shows, that during the reduction of the temperature of the body and exhaustion of the forces, the urine was excreted in less amount, and altered in quality. Here we have a demonstration of the previous propositions, that animal temperature and muscular and nervous force, are the results of chemical change, and that the reduction of temperature is attended by the generation of chemical compounds different from those of health, and that the malarial poison acts by inducing chemical changes in the elements of the blood and organs, different from the chemical changes of health. The fact that the chemical changes of the nutritive and force elements in the capillaries of the muscles and nerves and bones of the extremities, and surface of the trunk and head, were very small, and the fact that the blood was congested in the blood-vessels of the trunks, render it probable that the peculiar coloring matter of the urine was derived from the disintegrated blood-corpuscles.

8 o'clock P. M. Says that he feels very weak; has been vomiting bile. Three hours ago, 6 cut cups were applied over the epigastric region, without any arrest of the vomiting. Tongue very red at tip, and the surface is dry and rough, like sand paper.

The patient appears to be completely prostrated. Pulse 104. R. Apply a blister, 6 inches by 6 inches, immediately over the epigastric region, and as soon as it blisters, if the vomiting is not arrested, remove the cuticle, and sprinkle over the raw surface, 1 grain of the acetate of morphia. Stop all stimulants, and administer internally small fragments of ice, and milk and lime water, and acetate of morphia.

Urine, orange color; sp. gr. 1016. Amount passed during the last 8 hours, grs. 10160; calculated amount of urine for 24 hours, grs. 30480; reaction decidedly acid. Here we have a decided increase of the urine.

Oct. 13th, 1 o'clock P. M. Says that he feels much better. Pulse 86, fuller and stronger; respiration 28. Temperature of atmosphere, 76°. temp. of hand, 91°; temp. under tongue, 98.5. Surface of the body in a profuse perspiration, which feels cold to the hand. The temperature of the extremities does not correspond with the increased circulation and respiration. The blister has drawn well and the serum is of a light yellow color, and not the golden color of many cases of remittent and congestive fever. The blister and the acetate of morphia and ice have completely arrested the obstinate and violent vomiting. R. Sulphate of quinia, grs. xv.; tincture of opium, ℥ xx.; starch, f ʒ iv. Mix and administer immediately as an enema, and repeat in the course of four hours. Diet, arrow-root and chicken soup.

Amount of urine passed during the last 15 hours, grs. 8112. Color only a shade darker than normal; sp. gr. 1014; reaction decidedly acid after standing 30 hours. No deposit after standing 30 hours.

ANALYSIS LXV.	Grs. 8112 of Urine, excreted during 15 hours, contained grs.	Grs. 12979 of Urine, calculated for 24 hrs. contained grs.	1000 pts. of Urine, contained,
Urea,	159.080	254.528	19.594
Uric Acid,	2.000	3.200	0.256
Fixed Saline Constituents,	16.800	26.880	2.071

During the last three days the patient has been able to retain little or no nourishment, so that this is the urine of starvation.

Oct. 14th, 11 o'clock A. M. Much better—dressed and walking about the ward. Pulse 72, full and strong; respiration 22. Temperature of atmosphere, 78.5°F.; temp. of hand, 96.75; temp. under tongue, 98. Skin feels normal. The cold clammy sweat has disappeared; tongue clean, but redder than normal. Although the vomiting has almost entirely disappeared, still the stomach is unable to retain the sulphate of quinia. R. Repeat the enema of sulphate of quinia. Diet, wine whey, soft boiled eggs and arrow-root.

Oct. 15th. Continues to improve. Pulse 64; respiration 24.

Temperature of atmosphere, 74°F.; temp. of hand, 97·75; temp. under tongue, 98·33. Tongue still quite red, but moist and soft. The amount of urine has greatly increased. During the last 20 hours, has passed 30,360 grains of light yellow urine, which rapidly changes from the acid to the alkaline reaction, and lets fall a yellow deposit. Sp. gr. of the urine passed during the night, 1010; sp. gr. of the urine passed during this morning, 1014. Amount of uric acid passed during the last 10 hours, grains 28. This is at the rate of 67 grains of uric acid during the 24 hours. This examination confirms the statement previously made and substantiated in former numbers of the journal, that, as a general rule, the uric acid is either normal in amount or diminished, in the active stages of malarial fever, and increases during convalescence. As in the present case, this increase of the uric acid may take place even whilst the patient is under the influence of sulphate of quinia. R. Infusion of Virginia snake-root, and sulph. of quinia. Diet, oyster soup, wine-why and arrow-root.

Oct. 16th, 1 o'clock P. M. Still very weak, but continues to improve. Tongue not so red, moister and softer; reaction of saliva alkaline—up to this time it has been decidedly acid. Pulse 56; respiration 22. Temperature of atmosphere, 71·5°F.; temp. of hand, 96; temp. under tongue, 98·75.

Urine light straw-color, becomes alkaline, and throws down a light yellow deposit, after standing a few hours; amount passed during the last 24 hours, 29,000 grains; sp. gr. of the urine passed during the evening and night, 1010. Sp. gr. of the urine passed this morning, 1005. 100 parts of the urine passed this morning contained, urea, 8·636; uric acid, a trace, a few small crystals; fixed saline constituents, 1·990. This examination shows that the elimination of uric acid has greatly diminished in the course of a few hours.

Oct. 17th. Has been walking about the hospital grounds. Pulse 60; respiration, 26. Temperature of atmosphere, 64°F.; temp. of hand, 94·75; temp. under tongue, 99. The exercise will account for the acceleration of the pulse and respiration, and the free exposure of the hands to the cool morning air will account for the slight diminution of temperature. Reaction of saliva acid. The acidity, however, was not so intense as in the paroxysms. Yesterday the reaction of the saliva was alkaline. During the active stages of malarial fever, the saliva, according to my observations, is always decidedly acid; whilst during convalescence it is generally alkaline, but may vary from alkaline to slightly acid. This change in the intensity of the acidity of the saliva, corresponds, in a general way, with the diminution of acid in the urine. R. Quassia and soda. Full nutritious diet. Amount of urine passed during the last 24 hours, grains,

21,000. Urine passed during the last afternoon, evening and night, orange colored; sp. gr. 1014. After standing a few hours, the reaction changed from the acid to the alkaline, and a heavy light yellow deposit was thrown down. Urine passed this morning of a light straw color; sp. gr. 1004.

Oct. 19th. Says that he feels as well as he ever did in his life. Has been walking about the hospital grounds. Pulse 60; respiration, 24. Tongue, skin and temperature normal; blister almost entirely healed. This patient had no return of fever, and was discharged from the hospital a few days after this observation.

(To be continued.)

ARTICLE VII.

African Fevers—Intermittent and Remittent. By Rev. WILLIAM H. CLARK,* returned Missionary from Africa, attending Lectures in the Medical College of Georgia.

I herein submit a report of a few cases of Intermittent and Remittent fevers, that came under my observation in Yoruba, Southern Soudan Africa, the notes of which are taken down from memory, after a lapse of one, two and three years, with the intention of showing the similarity of such diseases, to those so familiar to the Profession in the Southern portions of our own country. I might number cases 1, 2, 3, 4, 5, 6—all precisely the same in symptoms, progress and termination, with the common intermittent, the perfect cure of which is made by a free use of our specific—Quinine.

E. G. CASE I.—white. Morning cloudy and damp; sudden change in the weather; patient becomes chilly—avoids the wind; finally seeks his bed, and suffers from a hard chill. This stage is followed by a burning fever, headache, pain and tightness over the epigastrium. Symptoms all disappear with the sweating stage, which now becomes profuse. The bowels are costive and tender on pressure. Slight laxative administered—quinine freely given, during intermission. Paroxysm prevent-

* Mr. Clark designs returning to Africa during the coming season to resume his missionary labors.—[EDRS. S. M. & S. J.]

ed. Patient convalescent within a few days, recovery being in all cases of this kind very rapid.

CASE II.—Patient has complained for the last twenty-four hours of general debility, some pain in the head, aching of the bones over the whole system. Breakfasted moderately. Within an hour had a chill. Vomited freely—some relief. Put to bed—hot bottles to the feet. Severe pain in the head—application of cold water. Patient drank freely of warm tea, an infusion of a leaf, something like peppermint. Sweating soon followed hot stage. Patient much relieved, becomes cheerful and free from pain. Quinine freely administered—paroxysm prevented—recovery speedy.

In some cases fever persists, and, without due caution, the second paroxysm supervenes.

CASE III.—Female, white. When first seen, was in bed, jovial and free from fever, during intermission. Second paroxysm prevented. Bowels became deranged, marked by symptoms of dysentery—several bloody discharges, that yielded to a few opiate doses. Patient seemed to be doing well fifth or sixth day—was walking about the room one or two days following; seemed to have had fever previous night. Quinine, in small doses, was administered through the day. Fever supervened suddenly, without chill—it assumed continued form. Skin now dry; pulse about one hundred; tongue tolerably clean; complains of no pain. About 8th or 9th, had hopes patient would soon be up; but the fever continues, though not very high; skin dry; no pain. About 12 o'clock, noticed anxiety in patient—wished me to be with her—seemed in good spirits, but *anxious*. Did not complain of pain; spoke favorably of herself. Quinine given in small doses. Early in afternoon stepped into an adjoining room. Within a short time I was called by attendant. Patient was delirious—recognized no one—became almost uncontrollable; had then burning fever; inspirations strong and deep. Within a few moments after entering the room, she began to sink, and *expired within a quarter of an hour*. I had not recognized any very alarming symptoms heretofore in the patient. Death must have resulted from congestion of the brain.

CASE IV.—Patient, man, white; two hundred miles from the coast; country open—rolling—no malaria; swamps unknown. Patient had a chill, with intermission. When called to him, I ascertained a fact, not known before, that his fever was continued. Found him haggard, bilious and stupid; very little rest during the night. Bowels costive; pulse quick and small; skin dry; tongue of rather a brown color. Gave nine grs. calomel. The skin becoming slightly moist, administered a dose of calomel and Dover's powders. Within a few hours, free bilious discharges. Then administered quinine, very freely, for twenty-four hours. Patient rested well during the night. In the morning free from fever. Quinine continued. In a few days the patient was convalescent.

CASE V.—Subject—the writer. Had been suffering from indigestion, costiveness and derangement of the liver, for several weeks; was thin, pale, and suffering hourly with a throbbing, acute pain in the head. Took exercise very freely—sometimes very early in the morning, before breakfast, but without any increase of appetite. Felt very dull and sluggish—sometimes even to stupor. Pain in head became insupportable, attended with something like a chill or ague. Went to bed. Had taken quinine very freely—sweated profusely—very much relieved by a cathartic—discharged bile copiously. Arose on the following morning much refreshed, though sluggish, with some pain in head; no fever. Within a few days, was called to see a sick friend, sixty miles distant. Went to bed early; suffered from pain in the head; rested badly; arose unrefreshed. Still suffering from pain and oppressed with more or less stupor. Started on my journey by four o'clock, on horse back.

Early in the morning, had a natural stool, though feces was hard and scanty. By 12 o'clock, had travelled thirty-five miles. Rested one hour. Took a cup of tea and a little refreshment. One o'clock, ordered my horse. Before mounting, was astonished to find my urine very highly colored, like blood. After riding four or five miles, was compelled to dismount to discharge urine, it was more highly colored. I became sick at my stomach, and weak. For eight or ten miles, alternated riding and walking, making water every few hundred yards—sometimes compelled to rest from weakness and pain. After sunset reached a

town, and retired to rest, without a grain or drop of medicine, my chest being miles behind me. I ordered a little infusion of the African peppermint; could not drink it, because very sick at the stomach. Vomited continually, with a discharge, hard, natural, and a rigor simultaneously. Again vomited—thought I could taste blood. Burning fever. Death seemed almost inevitable. Ordered my hammock, and told the men to take me to Ijaye. Now, late in the night, no attendant but my little boy, while thus vomiting, took a teaspoonful or more of tea. It seemed to act like a charm: vomiting ceased, pain subsided, and I lived through the night, contrary to my expectation. Early next morning, in a very weak state, was borne on a hammock about twelve or fifteen miles. Reaching the station, and finding the crisis of my friend's disease had passed, I took myself 7 grs. of calomel, and went to bed. Had a chill, followed by good reaction and fever. Calomel gave several bilious discharges. Took no more calomel, but took quinine very freely. On the third day I was very weak, and could not get up. During an entire week, my urine was like blood—gradually, however, it changed its color under a very free use of quinine. During this time I had slight fever through the day and night. My rest was very bad, and anything but refreshing. I was now pale and corpse-like, and scarcely able to put one foot before the other. Took no medicine but quinine, and an occasional laxative—once or twice a little wine as a tonic—recovering very slowly, and as yet no appetite. Ten days after this, I could walk a few hundred yards, with difficulty; unceasing pain in the head; bowels costive, and ringing in the ears, from the quinine. After the lapse of two weeks, I started for my home—rode twenty miles first day, and thirty-five on the second day, by 2 o'clock. Regained my strength, gradually, for several weeks. This attack was in the dry season, and one of several similar cases.

The country in which these cases occurred, is from 120 miles to 200 miles from the coast—open, undulating and well watered, and in the dry season, very dry. Around one of the places is a heavy wood, and a branch running through and near it, and it is swampy. Near it, on one side, the natives say it is haunted, because no one can live there. On two other sides the ground is covered by heavy woods, but the country generally

is open and rolling. The other locality is on the water-shed that divides the waters that flow respectively to the Niger and Atlantic—it is high, dry and open, with no swamp, no woods, and to all appearances healthy—the general range of the thermometer being from 80 to 85 deg. Fah. No excessive heat—no excessive rains.

ARTICLE VIII.

The Treatment of Fractures of the Femur below its Neck. By
L. A. DUGAS, M. D., Professor of Surgery in the Medical
College of Georgia.

IN the treatment of fractures of the thigh and leg we have not only to retain the fragments in their normal relation to each other, but we must do so with the least possible inconvenience to the patient, and with the greatest surety of success. The unruly action of the muscles must be controlled, the tendency to shortening or other deformity of the limb overcome, and abrasion of the heel effectually prevented. In order to accomplish these purposes and, at the same time, to allow the patient the privilege of changing his position, so as to answer the calls of nature, and to add otherwise to his comfort during the protracted treatment usually necessary in such cases, I have been for many years in the habit of resorting to the plan I am about to describe. I will not attempt an array of objections to the apparatus of Desault, as originally devised, and subsequently variously modified; nor will I urge any aversion to the more approved expedients which are necessarily restricted to well endowed hospitals and to special practitioners of surgery, because they cannot be in the possession of the great mass of physicians. The apparatus I use consists of materials readily obtained anywhere, upon the occurrence of the accident.

In fractures of the os femoris, below its neck, the patient should be placed horizontally, upon a hard bed, and an assistant should seize the foot so as to make the necessary traction while the surgeon is bringing the fractured ends in their proper relation to each other, and *until the completion of the dressing.* I then

apply around the thigh from four to six wooden splints, about a fourth of an inch thick, and of the length of the shaft of the bone. These are laid upon suitable compresses, and well secured with two many-tailed bandages, of sufficient width to extend over the whole length of the splints, and with the knots tied in front. A two pound weight should then be attached to the foot, as follows: Get a bandage, or tape, an inch wide and two and a half yards long; apply the middle of this across the sole of the foot; bring the ends up over the ankles and along the sides of the leg; secure them in this position by means of a two inch roller-bandage carried several times around the limb just above the ankles; turn down the ends of the tape and tie them in a knot at the sole of the foot; attach the weight (a bit of stone will do) to the united ends of the tape, and finally, carry the weight over the foot-board of the bed, so that by thus hanging it may keep up the traction after the assistant releases his hold upon the foot. The upper edge of the foot-board should be on a level with ankles in order that the tapes which bear the weight should pass *horizontally* from their attachment to the board. It is evident that if the foot-board were too high or too low the effect would be to elevate or to depress the heel, instead of making the traction alone in the direction of the axis of the limb, as should be done.

We should now apply to the outer side of the limb a splint half inch thick and four inches wide, extending from the waist of the patient to six inches below the sole of the foot. This splint may be secured by separate ties around the trunk, thigh and leg, and will serve the double purpose of preventing any displacement of the bones and of supporting the foot in its proper position, toes up. A compress being placed between the foot and this splint so as to prevent chafing, a narrow bandage should secure the foot to it. Finally, an arch, made with hoops tied together, should be placed over the foot to protect it from the weight of the bed-clothes.

It is obvious that with this apparatus the patient may change his position in bed, either from side to side or from above below without incurring any risk of displacing the bones, and without lessening the traction necessary to overcome the contraction of the muscles. The weight will rise or fall as he moves up or

down, and when he desires to move to one side the nurse may at the same time carry the tape correspondingly so as to continue the traction in the proper direction. The weight, although apparently small, will be found amply sufficient, and indeed as great as the patient will tolerate without inconvenience. The weight of the body will serve the purpose of counter-extension.

I have already said that the patient should be upon a hard bed. This will keep his body and limb in a horizontal position and prevent any bending at the seat of fracture. By this plan of treatment we effectually avoid the abrasions or chafing which so often attend the use of splints that bear upon the perineum and axilla. This apparatus has also the advantage that it may be loosened or tightened without difficulty, according to the exigencies of the case. If it be desirable, at any time, to place the limb upon a double inclined plane, this may be done by removing the long splint without interfering with the short ones.

No roller-bandage is used, for reasons fully set forth in this journal, vols. for 1850, p. 80, and 1854, p. 69. The annexed Plates will explain themselves—but I should observe that in Fig. 1, the long splint is omitted, in order not to mask the limb, and that the short ones are not represented quite long enough. These plates are similar to those which appeared in the Transactions of the American Medical Association, vol. x., 1857.

Fig. 1.



Fig. 2.



Lecture on Asthma. Delivered at Hotel Dieu, by Prof. TROUSSEAU. Translated from the Gazette des Hopitaux of August 26th, 1858, (for the Boston Med. and Surg. Journal.)

ASTHMA is a disease which manifests itself by attacks of dyspnoea and oppressed breathing, returning at more or less regular periods, after a longer or shorter intermission, and in the intervals of which the respiratory functions are performed with their accustomed regularity.

Whether these attacks come on from the influence of material causes or not, whether they are related or not to the existence of appreciable organic lesions, asthma is a complaint in which the spasmodic element prevails over all others, in which the nervous system plays a capital part.

An individual in the full enjoyment of health, not having indulged in any excess of eating or drinking, not suffering from dissipation or exhaustion, retires at night as well as usual and sleeps quietly. An hour or two after, he is suddenly aroused by an attack of the most distressing dyspnoea. He feels within the chest a sense of compression and tightness, great uneasiness; his respiration is difficult and accompanied by a laryngo-bronchial wheezing, particularly during inspiration. This dyspnoea, this anxiety increasing, the patient rises to a sitting posture. Supported on his hands, with his arms thrown out behind, his face swollen, sometimes livid, or of a purple hue, his eyes starting, his skin covered with sweat, he is soon obliged to spring from the bed; and if the apartment which he occupies has not a sufficiently lofty ceiling, he hastens to open the window and seeks from without the air which he needs. This fresh air relieves him. The attack lasts one or two hours, and sometimes more; then comes a calm. His face resumes its normal color, and loses its swollen appearance. The urine, at first clear and rather abundant, diminishes in quantity. The patient finally lies down and resumes his interrupted sleep.

The following day he goes about his business, leads his usual life, retaining sometimes a sensation, more or less vague, of constriction about the chest; often, however, having nothing but the recollection of his past sufferings. At night, almost at the same hour, the attack is repeated, precisely like the first one, yielding, like that, to return again the next night, and returning thus for three, four, five, ten, twenty, and even thirty nights—constituting a genuine attack of asthma. This attack, the return of which is not governed by any rule, is not renewed, in some persons, under four or five years, and is repeated in others every year, and in others oftener still.

This is the ordinary form of pure asthma, coming on without

any appreciable exciting cause, without any material agency that can be seized upon, without being related to any organic lesion susceptible of demonstration.

Let us now look at it as produced under the influence of a determinate cause. I will take my own case for an example, subject as I have been for a long time to this complaint; for always, in my case, the attacks are repeated under peculiar circumstances.

The most violent attack that I ever experienced came on under the following circumstances.

I suspected my coachman of stealing the fodder of my horses. To ascertain the fact, I mounted, one night, to the granary, where I measured the stock of oats. After finishing this operation, I was suddenly seized with such an attack of oppression and dyspnoea that I had hardly strength to reach my apartment; my eyes protruded from their sockets; my face, pale and swollen, expressed the greatest anxiety; I had just time to tear off my cravat, to rush to the window, to throw it open for a little air, to avoid suffocation. Although I did not habitually use tobacco, I begged, or rather by my signs I made those about me understand that I wanted a cigar, of which I took several whiffs; eight or ten minutes after, the attack was over.

What had caused this? Certainly the dust of the oats by which I had been surrounded, some grains of which had penetrated my bronchia. But most certainly, also, the dust would not have been sufficient, of itself, to cause so violent an attack, for this cause was quite out of proportion to the effect produced. A hundred times in the streets of Paris or on the boulevards, a hundred times on the public roads, I had been surrounded by an atmosphere of dust much heavier than that of the oats of which I had breathed only a few grains, but I had never suffered anything of the kind; it must be, then, that this cause had surprised me under peculiar conditions. Under the influence of the moral emotion which guided me—every one will understand me—the idea of this domestic theft, trivial as it was—my nervous system was excited, and under these conditions a cause, which under ordinary circumstances, would not have had any such effect, even if it had been increased fifty fold, acted, in this particular case, although hardly deserving to be represented by the power of one. This cause was the spark, which, falling upon the dry straw, was alone sufficient to kindle a great fire.

I have three more curious cases of the same kind, and an analogous one has been reported, as well as I can recollect, by Muret, in his *Apparatus medicaminum*.

An apothecary of Tours, slightly asthmatic, always had an attack when powdered ipecacuanha was disturbed in his presence. It was not merely when this root was pulverized, it was only

necessary to weigh it in his shop to bring on an attack of fearful distress, which lasted half an hour. Things came to such a pass that he made them notify him whenever ipecac was to be used, that he might retire to his own room. No other powder or dust produced in him such effects.

I know another apothecary, established at *St. Germain en Laye*, in whom the attacks of asthma, to which he was subject all his life, were produced under precisely the same circumstances, and also from the influence of powdered ipecacuanha.

Finally you may interrogate a woman who entered the hospital for rheumatic pains, who occupies bed No. 6, in St. Bernard's ward. She is 43 years old, and remarkably stout. She will tell you that, born of a father perfectly healthy up to the present time, of a mother who died of a dropsy, probably symptomatic of a disease of the heart, if we believe all the details which she gives us, she always enjoyed perfect health up to the age of 23 years. Married at that time, she was taken with asthma, of which the attacks returned at intervals during two years, ceased after the nursing of her children, and never returned. The attacks came on about two or three o'clock at night, lasted all night, and left the patient until mid-day in a painful state of exhaustion and oppression; the rest of the day she applied herself to her usual occupations. What I wish to call your attention to particularly, is, that these attacks were never more violent than when they were produced under the influence of a cause designated by many asthmatics; I have not, myself, alluded to it in speaking with this patient, but she herself told me that she was immediately seized with an attack whenever she happened to be in her chamber at the time her feather-bed was shaken up. These facts it was important to mention.

In the first case, then, which I have given you, asthma came on without any known or appreciable cause; in the last three, the attack was produced by an influence from without; but in all of them the disease was purely spasmodic.

To proceed. A man is taken, without exposure to any of the causes of catarrh, with a violent coryza; he sneezes twenty, thirty, forty times in an hour, he looks pinched, his nose runs profusely, a clear, liquid mucus; this coryza lasts a day or two, and the patient seems to have a regular catarrh; he has at first a nasal catarrh, then a laryngitis, and then a bronchitis; he coughs a little; toward evening an attack of asthma comes on. I say toward evening, for ordinarily asthma comes on at night, although there are cases in which it comes on in the day, as there are others in which the attacks are both diurnal and nocturnal, the former being remittent, the latter intermittent.

We here have the organic affection, the catarrh, the bronchitis, to which the spasmodic affection seems evidently to be at-

tached; so decidedly does it appear that this is the case, and even that it is dependent upon it, that in this instance the asthma will be regarded as a symptom. Nevertheless, it is not so. The spasmodic affection is so little dependent on the inflammatory one, that the same individual who has had an attack on the occasion of a slight cold, on being taken with a more serious bronchitis, or even pneumonia, this patient will not have asthma.

I am in the habit of attending a rich capitalist, who has been subject to fearful attacks since the age of 25 years. These attacks are so violent, that for fifteen years, he certainly has not slept seven months in his bed; he can only sleep upright, leaning against the chimney-piece. Fifteen years ago he caught a broncho-pneumonia of the most serious character, on going out of the theatre; he was so seriously ill, that fears were entertained for his life. During the whole course of his sickness, he had not one attack of asthma. He who could not sleep in his bed until it was arranged as an arm chair—so that he was sitting, not lying—rested during the whole time of his pulmonary attack, stretched out full length on his back. Often, since then, he has had colds, but never at those times has suffered from asthma.

The organic lesion, then, is not the disease; undoubtedly the bronchitis plays its part in the production of asthma under these circumstances, but it only plays it because it has found the scene prepared; because it has found the patient placed under peculiar conditions, without which, its influence would have been entirely insufficient. The effect produced is not in proportion to the cause; other more powerful causes would have acted in vain, unless they had found, like this, the economy in the condition necessary for the evolution of the malady they were to produce. Asthma has, then, its personality; it has also its eccentricities, like all other nervous disorders.

Let us see now how it appears, according to the individuals affected, and the period of life.

In children, its ways are so peculiar that often it may be misunderstood, and perhaps I was one of the first to point out its existence in youthful subjects. If there have been children who have had asthma precisely after the manner of adults, it is rare, and, for my part, I do not remember to have seen it so decidedly characterized except in a single instance. It was in a child five years old, a young Moldavian; he had very decided attacks of asthma, very well characterized, which were associated with pulmonary emphysema. On inquiring about the influences which might be acting in his case, I found no trace of any hereditary affection, either gout or rheumatism.

Two years after his first visit, they brought me the little patient with a great red, swollen, painful great toe; he had an attack of acute gout, of the most decided, legitimate character.

This is also the only case of gout which I ever saw in a child; I have never seen one since. The arthritis attacked the knees, and nothing resembled less acute articular rheumatism. During this attack of gout, the patient had not a single attack of asthma; these things took place according to rule, for, as I shall tell you, gout and asthma are often two manifestations of the same diathesis, and their attacks may alternate in the same person. It was so in my little Moldavian; he had attacks of asthma alternately with attacks of articular gout.

This form of asthma is, I repeat, that of adults; in the child, it follows quite a different course. Cases will teach you more than the best description; and besides, this last is impossible from the variety of its forms.

One of my associates, of vigorous constitution, had two children whose health was very delicate. Their mother was one of those reasonable hysteric persons, in whom the disease affects more the trisplanchnic nervous system than that of the life of relation.

One of these children was taken, one day, with symptoms of capillary pneumonia; the systems manifested themselves, so to speak, in a terrible manner, and assumed, subsequently, a grave form. An hour after the commencement of the attack, I was summoned. I found very abundant sub-crepitant rales, great embarrassment of the respiration, exciting apprehension of imminent suffocation. I directed a large fly blister to be immediately applied to the chest. Three days after, recovery was complete. My treatment had had a success too marvelous, and above all too rapid, for me to assign to it all the honor of the cure. I was considering myself only too happy at the result obtained, when a few days after, the same symptoms re-appeared; they lasted but forty-eight hours. But this time, even more than the first, I was convinced that in this case I had something else to deal with than a pneumonic catarrh.

I called to mind what the lobular pneumonia of children is; while my experience showed me that, both in hospital and private practice, I had never lost a child affected with pure lobular pneumonia—that this malady yielded generally, not to say always, under the intervention of art—the same experience had also taught me that it is not always so with lobular pneumonia. Of little importance when the subject of it has passed his second year, during the first period of infancy it is so formidable that, out of forty-two cases, I had seen forty die, whatever the treatment had been.

Then, on considering that the son of my friend had been cured of so terrible a disease, the first time in three days, the second in two, I doubted my diagnosis, or at least I completed it by looking back to his hereditary antecedents and thinking

what his mother was. I said to myself that in this case the nervous element must have played an important part, if it had not occupied the whole stage. Therefore, when, three months after, I was again called to see this little patient, who, after playing as usual, was seized in an instant, about ten or eleven o'clock at night, with an attack as formidable in appearance as the first—I advised burning in the room *datura stramonium*, in order to combat the spasmodic element. The following morning the child was on his feet.

This complaint had been, then, a true neurosis of the pulmonary apparatus, complicated with a bronchial secretion, acting, in this respect, in the same way as the neuroses which are so often accompanied by secretion, as I have had reason to tell you on many occasions.

I had been dealing with an attack of asthma. It was the first time that I had witnessed such symptoms in a child, or rather the first time that I had recognized their significance; for, on looking back, I could recall twenty cases, perhaps, which I had witnessed without understanding them. How often has this happened to the most attentive, intelligent and best educated physicians, to look at, without seeing, diseases, which another, more attentive and better observer yet, has discovered and seized upon after them!

Before Bright, cases of albuminuria has been seen, but no one before him had known how to draw the consequences from the facts observed; before Virchow, before Bennett, before Magnus-Hus, before M. Vidal, patients with leucocythæmia* had been seen, but they alone had regarded them sufficiently to understand them. Before M. Bouillaud, the existence of heart diseases in rheumatic patients had been recognized, possibly, but no one before the eminent professor of La Charité had known how to see the relation existing between these affections and rheumatism.

Thus, in my own case, it was the first time that I comprehended the fact which I had witnessed twenty times before.

I once knew a magistrate whose wife and niece were of a most marked nervous temperament. His child, subject to catarrhal affections, was taken to Nice, where he passed the winter. In the month of May, he was taken with a most violent catarrh; his family alarmed, took him to Paris, as soon as he

* M. Vidal, in an excellent monograph on Leucocythæmia published in the *Gazette Hebdomadaire*, 1856, has taken care to cite a considerable number of authors, who, since the time of Hippocrates, have mentioned, under the name of engorgements, obstructions, hypertrophies of the spleen, facts, which, being confounded one with the other, present an evident resemblance, a remarkable identity with those observations of leucocythæmia published in our day, and with those which he had collected himself.

was able to bear the journey. On his arrival, he was taken with the same symptoms; I was called to see him, in company with M. Blache, and found him in such a state that asphyxia seemed imminent. Nevertheless, recalling the facts which I have told you, and regarding his hereditary antecedents (I have told you that his mother was excessively nervous), I was not alarmed, and prophesied that this violent conflagration would be easily extinguished. We ordered fumigations with datura, and rather to quiet the apprehensions of the parents than to benefit the child, we ordered a portion of which the effect would be very insignificant, a veritable homœopathic portion. Two hours after, the symptoms were relieved; the following day the child was well, and the family received us with manifestations of joy, attributing, without doubt, the whole of the relief to the medicine which we had given. Since that time the little patient has had similar attacks, and each time the datura has calmed them in the same way.

My attention once fixed on this form of asthma, it has not escaped me whenever I have had occasion to meet with it, and I have seen it often—often at least, considering the rareness of this disease in children; that is, I have met with one or two cases every year. Now asthma always presents itself under the forms which I have described; only in my young Moldavian it took on that of adult age.

In the cases which I have cited to you, the progress of the disease has been very rapid; nevertheless, the symptoms may sometimes continue for seven, eight, ten and twelve days. The affection is none the less the same; the catarrhal element predominates, and finishes by establishing itself—and this, perhaps, because we do not interfere sufficiently soon or with sufficient activity to prevent it—but it is always the same disease. The nervous affection is the capital, essential element of it, doubled by the inflammatory catarrhal affection. This is so true, that if you arrive in season with therapeutic means capable of combating the spasmodic element, even when the catarrhal element shows itself, the attack goes on *uno tenore* and yields more easily than a regular pulmonary catarrh; even although in the first case the catarrh assumes more intensity, and presents characters in appearance more formidable than in the second.

Without doubt, when the catarrhal element has continued for a longer period, the true nature of the disease is more difficult to be recognized; but still it is characterized by these strange symptoms, by these attacks of oppression, of suffocation, returning after an intermission, principally at night, and persisting often, even when the catarrh has yielded, with an intensity which bears no sort of proportion to the inflammatory affection. On the other hand, the general troubles, the febrile phenomena,

are but slightly pronounced, and also are no way related to the intensity of the thoracic symptoms.

Finally, with regard to the prognosis, the attacks, however fearful they may have appeared, yield, to return after a longer or shorter interval; is this true of pneumonic catarrh, sufficiently severe to cause symptomatic phenomena of such a decided character? Most certainly not; for this disease does not often attack the same person twice, because generally, not to say always, it kills him the first time.

I have cited cases to show you what may be the conditions of the development of asthma; I have given you my own case. I have spoken of catarrh as an exciting cause. Among these exciting causes of asthma, there is one to be mentioned which is the most important and the most curious; I propose to speak of the conditions of residence and climate. This will be the subject of my second lecture.

S. L. A.

On the Hydrochlorate of Ammonia. By M. J. RAE, M. D., Blackburn. Late Physician to the Fever Hospital, and Dispensary, Carlisle.

ALTHOUGH the value of new remedial agents, which are from time to time added to the pharmacopœias, may often admit of question, there can be no doubt of the great practical importance of ascertaining the therapeutic action of those medicines which have long held a place in the materia medica; and of determining the diseases which they have the power either of mitigating or curing, and also of determining their comparative value over other and similar remedies in the treatment of such affections. There are medicines possessing considerable and even great curative virtues which are seldom employed by practitioners; and this may be attributed partly to prejudice, to the rage for new remedies, to want of knowledge respecting them, and to other causes. The muriate of ammonia appears to me to be one of these; for although it has long formed part of the materia medica, it has been little used by practitioners in this country, except as an external application. Amongst continental physicians, however, it has been long esteemed as a valuable internal remedy in the treatment of many chronic and febrile disorders. Entertaining a very high opinion of its curative powers, I have prescribed it pretty extensively, in various diseases, for the last eight years in private and for the last four years in dispensary practice, and with satisfactory results. The hydrochlorate of ammonia, besides being liquifacient and resolvent, as mentioned by Sundelin, Wibmer, and others, appears also to possess considerable neurotic action, as is shown by its curative power in

neuralgia and other nervous disorders. Its remedial influence is often so rapidly manifested in these affections as to preclude the idea of the effect being owing to any alterative or resolvent action; it seems more rational to refer it to a direct or peculiar influence of the salt on the nerves or their centres.

I have used the salt with marked success in goitre, and am not aware of its ever having been tried before in the treatment of that deformity. In several cases, where the local application of the muriate was conjoined with its internal administration, the tumors—some of which were very large—rapidly diminished in size, and were soon reduced to the normal condition. It cured the whole of the cases (ten in number) in which it was tried, the period of cure extending from a fortnight to two months. The subjects of treatment were mostly factory girls, of ages varying from fourteen to twenty. To test the powers of the muriate fairly, it was given alone in mucilage, or infusion of quassia, and combined with soap liniment for external use.

As goitre, from some unknown cause, prevailed here last year to a considerable extent, opportunities were thus afforded of contrasting the curative power of the muriate with iodine in this affection. Cases were selected where the tumors were nearly of equal size and duration, and where the age, temperament, general health, and sanitary condition of the individuals corresponded as nearly as possible; and in the cases treated with the muriate, which was used internally and locally, the tumors generally yielded as readily, and sometimes more quickly, than in those subjected to the trial with iodine similarly employed, and apparently quite as permanently. The muriate appears to be a safe and efficient substitute for iodine in the cure of bronchocele, and worthy of further trial. The hydrochlorate of ammonia is also a valuable remedy in whooping-cough. I was first led to make trial of it in the treatment of pertussis, from a belief that if the disorder was dependent—as it is considered to be by some pathologists—on an enlarged or morbid condition of the lymphatic glands, or that the exciting cause of the paroxysm was owing, as is very probable, to the presence of irritating glairy mucus in the bronchial passages, the muriate, on account of its alterative power in glandular enlargements and diseased mucous structures, and its effect in promoting the healthy secretion of the mucous membrane in cases of bronchitis, accompanied with the discharge of tenacious, glairy mucus, ought to prove an excellent remedy in the treatment of that often troublesome affection. The result was most satisfactory. It was tried in thirty-seven cases, ten of which were private patients, and the rest home patients at the dispensary, which were, for the most part, under the charge of Mr. Langsford, house-surgeon to the institution, to whom I am indebted for the efficient carrying out

of the treatment, and for a report of the cases. Of the number, two died—one, a weakly nurse-child, aged three months and a half, on the third day of treatment, and fifteenth of the attack; the other, which had been under the *druggists* for a month previous to being brought to the dispensary, and was then almost moribund, died shortly after the commencement of the treatment. Both these were hopeless cases, and unfavorable for a fair trial of the medicine. There were two doubtful cases, the patients having been removed from town before the cure was completed. In the thirty-three remaining cases, the majority of which were of more than ordinary severity, the average period of cure was about twenty days. But, in most instances, when the patient was at all favorably placed, and came early under treatment, the disorder yielded in from nine to fifteen days.

The remedial influence of the muriate in the disorder is immediate and decided. Under its use the expectoration soon loses its irritating, glairy character, becoming bland and less tenacious and the paroxysms are rendered milder, less frequent, and of shorter duration; in fact, by its influence the little patient seems to be carried more easily, quickly, if not at the same time more safely through the attack than by the agency of any other remedy with which I am acquainted. In most cases, the muriate was given in mucilage, or with liquorice water, combined with an aromatic, and in doses of one to five grains, according to the age of the child, and repeated every four or six hours.

When pneumonic or bronchial complications existed, or were threatened, antimonial or ipecacuanha, with morphia or hyoscyamus, were added to the ordinary mixture. The only inconvenience observed to result from the use of the muriate was the occasional supervention of a slight mucous diarrhoea, which was easily checked, and did not interfere with the treatment.

I can confirm the favorable opinion of other observers as to the efficacy of the muriate in enlarged lymphatic glands, and in indolent bubo, and can confidently recommend it in scrofulous ulceration of the lymphatic glands. There are few more intractable cases to be met with in dispensary practice than those of extensive ulceration of the cervical lymphatic glands, which frequently occur in weak, under-fed, and badly-lodged children. In several aggravated cases of this sort which have come under my own observation, some of which presented a chain of foul, ragged ulceration extending from ear to ear, the muriate acted with great rapidity; and in some instances, where iodine, syrup of iodide of iron, and other medicines, had no effect, the ulcerations quickly healed under its employment.

It is also a very excellent remedy in many forms of cutaneous affections, more especially in the scaly variety. I have seen cases of psoriasis inveterata which had resisted the long-contin-

ued use of arsenic, iodine, and other remedies, quickly yield to its influence. It seems to me to have the most decided effect in those cases of psoriasis occurring in patients of dissipated habits, or when complicated with enlarged liver. It is also very useful in eczema and syphilitic squamæ. Drs. Watson, Ebdén, and others, recommend the muriate in tic and facial neuralgia, and it certainly possesses very considerable curative power over these painful affections, and particularly over that form of neuralgia mentioned by Dr. Watson, which is confined chiefly to the lower part of the face, and in a very troublesome variety affecting one or other side of the neck, and probably connected with a morbid condition of the cervical lymphatic glands.

The muriate like other remedies in neuralgia, does not succeed in every case; but in those cases in which it proves successful, the beneficial effect generally follows soon after its administration. In my hands the best results were obtained with it in neuralgia when it was given in the ordinary dose, and repeated every half hour or hour.

My experience of the muriate in catarrhus vesicæ, enlarged prostate, muscular rheumatism, sciatica, and other analogous affections, has as yet been too limited to enable me to report with confidence on its value in their treatment; but judging from the result of the trials which I have made already with it in these disorders, I think it deserves the high opinion entertained of it by René, Vaney, Dr. Fuller, and others. Never having occasion to prescribe the salt in the large doses recommended by some authorities, I have not observed any irritant or injurious effects on the stomach, intestines, or other organs to follow its employment. When given to adults, in from five grain to scruple doses in mucilage or bitter infusion, with aromatics and anodynes, it may be continued for a considerable time without producing any unpleasant results. The ordinary dose to adults was from five to ten grains three or four times daily. It was seldom necessary to increase the dose beyond the latter quantity.

The muriate of ammonia is unquestionably a valuable medicine, possessing active curative powers; and having a wide range of action, and being cheap, and therefore the more likely to be pure, it is well fitted for hospital and dispensary practice and deserves more of the attention of the profession generally in this country than has hitherto been given to it.—[*Lond. Lancet.*

The Differential Diagnosis of Ovarian Dropsy and Ascites.

No fewer than four cases have recently come under our notice in which patients suffering from ovarian dropsy had been subjected to prolonged diuretic and mercurial medication, in the

belief that the disease was hepatic ascites. In one case, a short time ago, in a large metropolitan hospital, the reverse mistake was made, and the peritoneal cavity injected with iodine, in the hope of obliterating an ovarian cyst, which, as the autopsy a few days afterwards proved, did not exist. Rumor states that one or two other accidents of the same kind have occurred since the iodine injection plan came into vogue, but we are not in a position to substantiate them. Facts like these prove that the differential diagnosis between these two affections is either not so generally understood as it ought to be, or else that it is a matter of extreme difficulty. Now, there is one sign which hitherto we have never found to fail, but which is, we believe, as compared with its value, but little known. In more than one work on the diseases of women we find no mention of this symptom, although, in extreme cases it is the only one which is available. The sign referred to is percussion of the lumbo-lateral region. If in a case of ascites in which the distension is so great that the hydrostatic line of level in front is not changed by posture—and it must be remembered that only in ovarian cases in which the cyst is so large as to simulate this extreme condition ought any difficulty to occur—if, in such a case, the patient be made to sit up in bed, and the loins be percussed, it will be found that the note is the same (usually dull) on both sides. If an ovarian case, no matter how great the distention, be treated in the same way, one loin will be found to be clear, and the other quite dull. The explanation is obvious; in ascites the air containing coils of gut float as far forwards as their mesenteric attachment will permit, while in the case of an ovarian cyst, they are pushed over to the healthy side. It is not easy to conceive any condition of things, excepting entire exclusion of air from the whole tract of intestines, which could diminish the trust-worthiness of this symptom. It indicates also, with unfailing accuracy, on which side the ovarian cyst, if it exist, has originated.—[*Medical Times and Gazette*.

Use of the Essential Oil of Turpentine and Opium in Large Doses in the Treatment of Severe Puerperal Affections.

IN the discussion going on for the last three months at the Academy of Medicine in Paris, and which has attracted so much public attention, puerperal fever has been considered by the most competent authorities as a disease almost universally beyond the resource of art, at least in the present state of our knowledge; all the means hitherto employed have, almost without exception, proved useless. This melancholy confession of the inefficacy of medicine to subdue an affection which carries

off so many women in the flower of their age, is unfortunately but too well founded when we speak of the severe epidemic form, but ought not, however, to be adopted as literally true. We have lately seen a case of very severe puerperal peritonitis, which M. Antoine has cured by the method above mentioned, and which Velpeau introduced many years ago. We have since seen two cases in Velpeau's wards, both cured in the same way. This plan of treatment is by no means new, for we remember to have used it with success some twenty years ago, but it is not the less worthy of notice. It is the plan of Graves (of Dublin) which Trousseau has long employed with advantage in the treatment of puerperal illnesses; it consists in giving to lying-in women attacked with metro-ovaritis, or phlegmonous inflammation of the broad ligaments, or peritonitis, or uterine phlebitis, &c., &c., opium and essential oil of turpentine in large doses.

Dr. Bonfils has just published, *in extenso*, in the "Bulletin Therapeutique," two very interesting cases of this kind. In the first the patient was attacked after her confinement with peritonitis and double pleuro-pneumonia, and was cured of this formidable complication after seven weeks' treatment. The other patient was attacked under similar circumstances, with a very severe general peritonitis, all the puerperal complications were rapidly checked by the plan of treatment recommended, but after the most marked improvement, which promised to end in a perfect recovery, she was seized with symptoms of hectic, which closely resembled that of pulmonary phthisis, and she finally sunk, owing, in all probability, to a purulent infection.

Opium and turpentine were administered in both cases in the following manner:—

In the first case Trousseau prescribed opium in pills, and turpentine in enemata; he gave at first 5 centigrammes of opium, in five pills, in the day; then the dose was raised to 8 centigrammes, in eight pills; then 10 centigrammes, in ten pills. The opium was continued for thirteen days.

Turpentine was administered at first in doses of 10 grammes,* divided into two enemata; one was given morning and evening; then it was gradually increased to 20 grammes, 25 grammes, 30 grammes; this last dose was continued for fifteen days. The following was the formula adopted; essential oil of turpentine, 10, 20, 25, 30 grammes; yolk of an egg; water, 100 grammes; to be divided into two enemata; add to each enema five or six spoonfuls of gum water or linseed. The enema to be retained as long as possible.

In the second case the opium was likewise given in pills, in the dose of five centigrammes continued for three days. The

* Gramme = 15·4325 grains Troy. Centigramme (100th of a gramme = 0·15432 grain.

essential oil of turpentine was administered by the mouth, in capsules, for six days; the patient took every day six capsules, each containing 1 gramme of the essential oil; she took two, morning, noon, and night.

M. Bonfils details the following as the physiological phenomena which were noted as occurring in both cases:—

In the second case, immediately after taking the capsules, the patient felt a sensation of intense heat at the pit of the stomach; a few minutes afterwards there was a very complete general reaction, characterised by heat of surface, general perspirations, increase in the volume and frequency of the pulse; then followed in succession confusion of vision, vertigo, stupefaction, and drowsiness, and after some time, itchiness of the skin.

The physiological phenomena were less pronounced when the turpentine was administered in enemata; they consisted in an immediate sensation of heat in the abdomen, a general but moderate reaction, slight vertigo, some confusion of ideas, slight disturbance of vision, and slight itchiness of the skin. Such were the phenomena which existed in the first case.—[*Dublin Hospital Gaz.*, and *Braithwaite's Retrospect*.

On Scarlatina and its Treatment. By E. BISHOP, M. D., Devonport.

IF we would have a science and the art founded thereon, to become more and more pure, we must direct our studies in the way which our present acquaintance with the science points out to us. If the way be one of theory, we must theorize; if it be one of practice and observation, we must observe and investigate. Medicine is essentially a science of facts. The store of facts is gradually accumulating, and has already, indeed, increased to such an extent as to render the teaching necessarily more and more practical, and to show that things, not words *en masse*, form the material with which the practitioner's mind must be supplied. The more medicine is made to partake of the real, the more prominent and brightly will it shine.

The foregoing I saw in print some time since, and the remarks appear applicable to the following. It is desirable that contributions to the medical press, however trifling they may appear to some, should be published, especially respecting any new or successful treatment in serious diseases. It is the duty of the practitioner to record his method of treating disease even if it does not appear strictly orthodox, or in accordance with the prescribed methods. If we had to rest entirely upon the authority of even our best authors, we should fall miserably short; for the numerous opinions given as to the nature and treatment of

this and other diseases are so contradictory and conflicting as to mislead the matured as well as the juvenile practitioner. Or, to quote the language of Dr. Gilmour, "My young brethren in medicine must not trust implicitly to what they read in books; many of them are truly valuable and trustworthy, but others (and of these there is a large number) are written to suit a purpose, and contain trash."

I beg to state as briefly as possible the treatment I have adopted in this disease during the last nine months. There is nothing original in it, so far as it relates to myself. I know friends who have tried it with marked success. Scarlatina has been rife in this town for the last nine months, and has proved fatal to a large number of children belonging to all classes of society. In many families, one, two, and even three have succumbed to it. I applied to the Registrar for the exact number of deaths from this disease in the three quarters ending March, June, and September, 1858, and he has been kind enough to supply me with a return, by permission of the Registrar-General. In the first quarter of the present year, the deaths from scarlatina reached 23; in the second, 44; and in the third, 27, in children under ten years of age.

In fifty-one cases of scarlatina scattered over the town, in children varying from two to ten years of age, my plan of treatment has been tonics from the commencement—(i. e., from my first visit)—either the citrate of iron, or the tincture of the sesquichloride, in the usual full doses; and I have every reason to be satisfied with the result, having lost but one case. I made no difference in the *plan of treatment* even when serious complications presented. In many the fever was intense, the inflammation of the throat severe, and pain in swallowing very considerable. Four children in one house, in Cannon-street, had scarlatina anginosa in an aggravated form, being attended with an acrid discharge from the ears and nostrils. In one case deafness has remained nearly permanent. I entirely discarded the application of strong caustics to the throat and tonsils, which many years' experience has taught me is injurious in very young children, and calculated to do more harm than good, to say nothing of the injury and difficulty attending the operation. External applications to the throat I found most beneficial—either the compound camphor liniment, oil and hartshorn, or turpentine sprinkled on a strip of flannel, previously wrung out of hot water, and applied several times during the twenty-four hours. Inhaling the steam of hot water gave much relief, as it generally does. The children I have been called upon to treat have belonged to the poorer class; the diet necessarily simple; in severe cases, broths, beef-tea, milk, jelly, and wine were recommended, and procured if possible. One gratifying result in the treatment of scarlatina

with iron, as far as my experience carries me, is that the children, with few exceptions, escaped that serious and frequent sequel—anasarca.

I have seen two cases of diphtheria following scarlatina during the epidemic, in children four and six years of age. The first child had been convalescent a week or ten days, and I must confess, I could not understand the cause of the relapse. After a few days, I suspected diphtheria; the child would never allow me nor the parents to examine the state of the throat, although rough usage was resorted to more than once or twice. During the time it suffered extreme prostration, and was supported by wine and beef-tea; it also took a mixture containing the tincture of the sesquichloride of iron. This child ultimately coughed up the membrane characteristic of diphtheria. A fit of vomiting and coughing came on at a time when it appeared beyond hope; but when the membrane was released, the child was relieved and gradually rallied.

A remarkable case under my care was that of a boy aged four years, belonging to the Royal Naval and Military Free Schools. I first saw him twelve weeks ago from the date of this communication; he had then scarlatina anginosa, from which he recovered sufficiently to enjoy a walk. About a fortnight after his recovery his mother requested me to see him, as he had (to use her own words) "pimples coming out over his face and body." On visiting him, this proved to be variola discreta. He had been successfully vaccinated, judging from the cicatrices in his arm. The little fellow suffered severely; he had not regained his strength from the debilitating consequences of the previous illness. He was kept up by wine, beef-tea, ammonia and bark, as maturation of the pustules went on but slowly. He recovered from this attack, but not sufficiently to return to school, when I was requested to visit him, as he had whooping-cough, which was and is now epidemic in this town; and this being complicated with pneumonia, terminated his existence a few days ago. There was something remarkable in the fact of this child having three of the most serious and fatal diseases of childhood in the short period of three months. One little girl who was in the habit of going to the house of the deceased is now under treatment for variola.

I trust the tonic treatment of scarlatina with iron may have a trial elsewhere, and prove as efficacious and successful as it has been with me. I conceive it is far better to prove by facts than to judge and condemn without a trial, simply because the treatment does not harmonize with the doctrine laid down by our popular authors and preceptors.—[*London Lancet.*

On the Abuse of Mercury in Ophthalmic Diseases. By Dr. ALFRED POLAND, Surgeon to Guy's Hospital.

THE chief aim of the author is to draw the attention of the profession generally to the above subject, and more especially when practised by those not over-conversant with these affections. He is sorry to say that the study of eye-diseases has considerably declined, and that it is more and more becoming an isolated branch of the profession. In former years, every hospital and general surgeon undertook the treatment of this class of cases, and the lectures on surgery at the several schools duly elucidated the principles and practice thereof. Now-a-days, on the contrary, with the exception of one or two leading medical schools, ophthalmic surgery had become isolated, and rendered perfectly distinct and separate; there are separate wards and separate lectures, which are, moreover, unrecognized by the examining boards. The author hopes that this state of affairs might be remedied, and that persons before entering on practice should show some evidence of having studied, and become practically acquainted with the treatment of diseases of the eye. With these strictures the author cursorily surveys the general diseases of the eye, pointing out that in the majority of them mercury was not required. In the conjunctival inflammation, including also gonorrhoeal ophthalmia, mercury was admissible, inasmuch as they could be cured without its administration. So, also, in so-called strumous diseases, comprising ophthalmia and corneitis, it was a remedy that did no good, as attention to the secretions and excretions, with due regard to diet and the powers of the patient, sufficed to eradicate the complaint. It would hardly be credited that, in the year 1858, mercury was administered for penetrating wounds of the eye, yet, he (Mr. Poland) was sorry to say such was the case; and, he remarked, what would be the results of operation for extraction were this line of treatment to be adopted? In adverting to scleratitis and iritis, mercury came to our aid, more so in the latter than in the former disease; yet even in these affections more attention ought to be paid to the condition and constitution of the patient than the nature of the disease. It was too much the fashion to consider that because a part or organ had taken on inflammation, and in consequence, had appended to its name the dreaded term "itis" it was to be combated by calomel, leeches, low diet, &c. Many an eye, and, perhaps, life, had been lost by this unfortunate appendage. As for amaurosis, the author naïvely stated that all the mercury in the world would not replace a cupped condition of the entrance of the optic nerve, nor would it remove a detached retina, nor promote the absorption of dirty white pigment on the retina, nor restore the lost transparency of the retina, nor such other organic

changes pointed out by the use of the ophthalmoscope. Yet mercury was, and is still, administered by some, for days, weeks, and even months. Space will not allow us to enter more fully into each of the topics brought forward, as the principles and treatment advocated are those generally practiced and taught by the several leading surgeons who have studied eye-diseases. It was the author's endeavor in his few loose remarks, to call attention to the simple fact, that an improvement had taken place in the last few years, by a more guarded abstinence from the use of the drug mercury in ophthalmic practice, and that such should be made known to the profession generally, so that they may avoid resorting to the remedy as a specific in inflammations generally.—*Lancet*, and *Rankin's Abstract*.

Gallic Acid in Fungous Hematodes. Under the care of THOS. TATUM, Esq., at St. George's Hospital. (Case and remarks by C. HUNTER, Esq., House Surgeon.)

[THE following instance of the effects of an internal remedy on malignant growth, is interesting. The patient was only eight years of age, and was admitted with a tumour about the size of the eye itself, and situated behind, and consequently protruding forward that organ. It had only been apparent two or three weeks, and after his admission to the hospital rapidly increased—no operative measures being had recourse to owing to its situation.]

As it grew larger, the eye, being pushed before it, gradually dwindled, and became at last a shrivelled-up and hardened excrescence on the outer part of the protruding mass.

In the course of four months (from time of admission) the tumour had become as large as the head of a seven months foetus, and of such a size as to overlap the mouth, so that he had to be fed by a pipe at the further corner of it.

At this period (beginning of August), the surface of the tumour was irregular but rounded, the greater part of the surface was in a raw ulcerated condition, exceedingly vascular and constantly bleeding, often to such an extent that every attack appeared likely to be the last.

These hemorrhagic attacks were generally treated by cold, by pressure, and by the local application of blue lint. The boy was living on generous diet and wine. On the 2nd of August, after one of these attacks more serious than usual, which quite bleached the face, and much weakened the pulse (always weak and rapid), I gave him gallic acid in four grain doses, in infusion of bark, to try, if possible, to arrest the bleeding.

August 30, one month afterwards. Curious as it may appear,

the gallic acid had been productive of the most marked effect, the tumour from that time had never bled once, nor even had there been the least oozing of blood. The surface of the mass became more healthy, less vascular, more solid, and *considerable diminution* of the tumour had taken place. After this, for a few days, increase of the tumour again occurred, but no bleeding took place from it. The increase in size was met with an increased dose of the gallic acid, which was again productive of benefit.

Present State, Sept. 25. 1st, The tumour is about nine inches measured over the longest diameter, and eight and a quarter over the shortest; this is much less than it was two months ago, so that the boy can now feed himself easily, the mouth not being at all overlapped, whereas before he required feeding. 2nd, Not the least bleeding has occurred since the first dose of the gallic acid, which was given now nearly two months ago. 3rd, The health, strength and appetite of the boy appeared improved.

In recording this case, it is only meant as an instance of the palliative effect of a remedy on malignant disease; it is the more curious that the gallic acid has had the striking effect it had, because of the exceedingly vascular and raw state of the surface. The least movement, the least cry before the administration of the acid, used to occasion a sudden rush of blood from several parts of the tumour. That the tumour should have decreased in size is not less remarkable than that all hemorrhage for so long a time should have ceased.—[*Med. Times and Gazette*.

On the Inhalation of Carbonic Acid as a safe and efficacious Anæsthetic. By M. OZANAM.

THE inhalation of this gas, Mr. Ozanam tells us, produces effects which are very analogous to those of ether, only more transitory; and these effects he considers as belonging to four periods.

1. *The prodromic period*.—In this period the animal experimented upon is sometimes calm, sometimes rigid. The duration is from one to four minutes, according to the strength of the subject and the dilution of the gas with the atmospheric air.

2. *The period of excitement*.—This is almost absent, and at most it consists in some agitation and voluntary movement. The respiration is quickened and so are the beats of the heart—then, in about a minute, the muscles relax.

3. *The period of Anæsthesia*.—In this period the animal lies stretched on its side, breathing slowly and profoundly, and with the pupil moderately dilated, and with the heart beating slowly and more feebly. The anæsthesia is complete. M. Ozanam tells us that this state of complete anæsthesia may be kept up

by continuing the inhalation, without any danger to life, for ten, twenty, thirty minutes, or more, and that the animal recovers almost immediately when it is allowed to breathe atmospheric air.

4. *The period of waking*, which is very transitory, appears to be somewhat like a state of drunkenness.

One curious fact transpires in connection with these experiments, and this is, that animals which have been frequently submitted to them, at length become so habituated to the gas, that they cannot be rendered anæsthetic by it.—[*Archiv. Gen. de Méd.*, and *Ranking's Abstract*.

Obstinate Ophthalmia Tarsi treated by the Application of Tincture of Iodine and Glycerine. By Dr. ANGUS MACMILLAN, Hull.

M. A., aged twelve years, five years ago had a severe attack of scrofulous ophthalmia. On examination we observed specks on both corneæ, and considerable conjunctival vascularity. Edges of eyelids much inflamed, hardened, and considerably thickened; eyelashes agglutinated together. Partial obliteration of Meibomian apertures in right lower eyelid. General health evidently much impaired; skin and digestive organs disordered, and undoubted marks of a scrofulous constitution present.

On being questioned, stated she had been under treatment more or less since the attack of scrofulous ophthalmia, that general and local means had been employed, but with no permanent benefit.

The edges of the eyelids were washed carefully, and any adherent matter removed from the roots of the eyelashes and Meibomian apertures. The edge of each eyelid being carefully everted, the tr. iodine was then applied to the whole edge by the aid of a fine camel's-hair brush, which was passed over two or three times, so that the tr. iodine might enter the Meibomian apertures, and be diffused among the cilia. During the day and night frequent applications of the glycerine by the aid of a common camel's-hair brush. In the course of two or three days a decided improvement was manifest. Three more applications of the tr. iodine at intervals of three or four days sufficed to cure the case. Quinine and sulphuric acid were administered internally.

Many more cases followed by the same success could be reported, but the above will be sufficient to direct attention to this mode of treatment of an affection of the eyelids, which in a majority of cases may be considered incurable. I am not aware that this method has ever been previously suggested; and should any of your readers feel disposed to give it a trial, it is to be

hoped they will communicate the result of their experience, so that its true value may be ascertained. The tr. iodine is a more convenient and effectual application than the ordinary salves, inasmuch as its stimulating properties can be brought to bear more directly on the Meibomian apertures.—[*Med. Times and Gazette.*]

Mr. Dixon's Method of Excising the Eyeball.

[MR. DIXON'S method of excising the ball, though similar in plan, differs in some of its details from that practised by his colleagues.]

Mr. Critchett, to whom the credit is due of having been the first to supersede the old and most clumsy method with the scalpel by the admirable operation now in general use, employs the strabismus hook and scissors in the dissection. Mr. Dixon has for some time past dispensed altogether with the hook and employs curved instead of straight scissors. The wire speculum having been introduced, the conjunctiva, elevated by dissecting forceps, is divided all round at the margin of the cornea with scissors curved on the flat and slightly rounded at their points. The tendon of the external rectus and the adjacent areolar tissue are next seized in the forceps and snipped through. An assistant now fixes the globe and draws it forcibly inwards by holding in forceps the insertion of the just divided muscle, and the superior rectus, the oblique and the inferior rectus, are in order snipped through. The globe now starts forwards, and the optic nerve having been easily reached and cut through, it is turned hind part before, and a few more touches suffice to divide the last remaining muscle, and to complete the operation.—[*Medical Times and Gazette.*]

Inhalation of Carbonic Acid as an Anæsthetic. (From the French of Dr. OZANAM).

THE effects of carbonic acid resemble those of ether, according to the author, but are more fugitive; and while it is necessary in the case of ether to interrupt the inhalations after short intervals, an opposite procedure is required for carbonic acid.

a. As long as one wishes the sleep to be prolonged, the inhalations must be continued.

b. These can be prolonged ten, twenty, thirty minutes and more, without danger to life.

c. When the inhalations are stopped, the waking is almost always immediate.

The experiments of Ozanam and Faure have never resulted

in death. When death does take place, it is slow, progressive, and one can predict for some time in advance the moment of its arrival, by considering, as Faure has done, the condition of the heart and the pupils. The following experiment, related by Ozanam, is most interesting.

I had prepared by Mons. Fontaine a gas bag containing about 100 litres of carbonic acid, being resolved to prolong the anæsthesia as far as possible. The animal was put to sleep in three minutes, without convulsions, and remained on its side in a quiet sleep without being held. The inhalations were continued for 87 minutes, and the apparatus was then withdrawn; full sleep lasted five minutes more; towards the tenth minute the paws began to be agitated; at the fifteenth the animal arose. One hundred and two minutes were thus consumed in the experiment—a time much longer than is required by the longest operations.

We believe that Faure and Ozanam purpose the use of *asphyxiated anæsthesia*, or *anæsthesia produced by carbonic acid*, for man. Faure and Ozanam say, that they have respired the gas, if not to the point of producing sleep, at least until they felt the first effects. Its taste is slightly piquant, about as pleasant as that of ether, and it is an excitor of the saliva. Ozanam says that the ethers, chloroform, and carbonic oxide determine anæsthesia by robbing the arterial blood of its oxygen, so as to produce carbonic acid, and thus making the blood venous. Carbonic acid itself does not decompose the blood; it removes no vital principle from it, but contributes progressively, and so that it can be graduated at will, the necessary quantity of carbon to determine the insensibility.—[*American Med. Monthly*.

Case of Nævus in the Left Cheek cured by the Injection of Tannic Acid. By Dr. QUINLAND, Surgeon to St. Vincent's Hospital, Dublin.

CASE. Eliza B—, æt. 9 months, has a subcutaneous nævus on the left cheek, about midway between the angles of the mouth and jaw. Her mother states that she observed this immediately after birth; it was then almost imperceptible, but has gradually increased, until it is now somewhat larger than a shilling. It can be almost emptied by pressure. The skin covering it is healthy. Two veins of considerable size lead from it.

Saturday, August 21.—I introduced a cataract-needle into the upper portion of the nævus, and broke up its structure. I then inserted a very fine platinum canula, and, by means of a small platinum screw-action syringe, constructed for this purpose, injected a scruple of solution of tannic acid, of the strength of a drachm of the acid to the ounce of distilled water. I repeated

the same manœuvre in the two other most prominent parts, until the nævus became well distended. Congulation quickly ensued, as was shown by the almost stony hardness which the nævus assumed.

Eight, P. M., same day.—Left side of the face considerably swelled; nævus somewhat inflamed. Ordered the part to be fomented with cloths wrung out of hot water. To take a little hydrarg. c. cretâ.

August 23d.—The swelling of the face is quite gone down; the nævus appears to be undergoing a kind of chronic inflammation; the epidermis over it is desquamating.

Friday, September 3d.—The site of the nævus is occupied by a tumor resembling the induration left after a boil. There is no trace of dilated vessels. The two veins before alluded to have almost disappeared.

September 7th.—The induration appears to be undergoing gradual absorption; the three openings made by the canula are healed up.—[*Dublin Hospital Gaz.*, and *Ranking's Abstract*.]

On Extirpation of the Parotid. By Dr. J. M. WARREN.

In a paper on "Tumors in the Parotid Region," Dr. Warren states his experience upon this subject in the following paragraphs:—

"As to the practical question which is often raised, whether the gland can be removed without the ligature of the carotid, the result of my experience is this. The parotid gland has been removed by me in six instances, which are given below: three for scirrhus disease, one for erectile tissue, one for melanosis, and one for hypertrophy; in none of these was the great artery tied. The experiment of dissecting out the parotid gland in the dead subject has been frequently made by me, and with a little care this can be done in most instances, leaving the great vessels behind, although sometimes a small backward-projecting bit of the gland is left, and this has been observed to escape disease. But in scirrhus affections, where the gland undergoes a gradual induration, the vessels are frequently pushed backward, as they were in one or two of the cases here given. The above observation is confirmed by my friend and colleague at the hospital, Dr. Gay, who made similar dissections on the dead body to ascertain this point.

"In a case mentioned by Dr. J. C. Warren the carotid was cut at the end of the operation, and the jet of blood struck the wall. The vessel was secured, the carotid being compressed below, and the patient did well. In the second case for the removal of a scirrhus parotid, in which I assisted Dr. Warren, the carotid

was divided and tied. Three days after, as the patient was straining at stool, the vessels gave way, and the blood struck the ceiling. He almost at once fainted, and the friends were fortunately sufficiently cool to place a sponge in the wound, and to check the flow partially. I was called, and at once cut down upon the carotid in the neck, tied it, and stopped the further effusion of blood. Bérard, in his monograph on this subject, mentions many instances of removal of this gland without ligature of the carotid."

The paper is completed by the history of the six cases above alluded to.—[*Boston Med. and Surg. Journal*, and *North American Med. Chir. Review*.

Diagnostical and Prognostical value of Hæmoptysis. By Dr. TROUSSEAU, Physician to the Hôtel Dieu, Paris.

PROF. TROUSSEAU states that, on finding an individual spitting blood, the first idea that presents itself is the existence of pulmonary tubercle; but if we note all the cases that present themselves, not in private, but in hospital practice, we shall find the hæmoptysis as often dependent upon other causes as upon tubercular disease. This statement, paradoxical as it may seem, is quite true when confined to hospital patients.

A form of hæmoptysis that is rarely met with in hospitals, is due to *hemorrhagic deviations*. We meet with women who, without suffering from any notable disturbance of menstruation, but who are the subjects of nervous symptoms, spit blood frequently in considerable quantity. Neither the symptoms nor attentive exploration of the chest, indicate any affection of the heart or lungs; and when the period of menopause arrives, the hæmoptysis becomes arrested, and does not return. Other women spit blood during pregnancy or lactation, and cease doing so when these conditions are terminated. These nervous women are also sometimes the subject of menorrhagia, seeming to be under the influence of a hemorrhagic diathesis; and when the critical discharge does not take place by the uterine mucous membrane, it does so by the bronchial membrane. Although these hæmoptyses are not of the importance that might be supposed, and may be reproduced at longer or shorter intervals during several years, it must be borne in mind that this frequent repetition may induce a congested state of the respiratory apparatus, during which even a slight accessory cause may give rise to a more or less dangerous phlegmasia. Independently of abnormal circumstances, we may meet with hæmoptysis occurring, so to speak, as a physiological accident, supplying the place of a natural or accidental discharge of blood, which, from

some cause or other, does not take place by the ordinary channel. Thus, in women with obstructed menstruation, it is one of the most frequent forms of *hemorrhage supplementary to menstruation*. It will be readily understood that when with this peculiar disposition of the economy there is combined another dependent upon a local predisposing condition of the pulmonary apparatus, these hæmoptyses are still more readily produced. Under such circumstances the prognosis of hæmoptysis is far more serious than when it arises from hemorrhagic deviations unconnected with local occasional causes. Here, in fact, the accidents become complicated with the local lesion which has led to these manifestations, just as this itself is necessarily complicated by the fact of the fluxionary hemorrhagic movement, which, at each return, accelerates the evolution of such lesion.

As already observed, these varieties of pulmonary hemorrhage are rare in hospital practice. The form of the affection, however, there most commonly met with, is not hæmoptysis dependent upon phthisis, but hæmoptysis dependent upon disease of the heart. It is not meant by this to declare in an absolute manner, that tubercular hæmoptysis is of rarer occurrence than hæmoptysis dependent upon disease of the heart, but only to state that in phthisis, hæmoptysis being in general a transitory condition, occurring early in the affection, the patients do not come to the hospital, while hæmoptysis dependent upon heart-disease occurs principally when the disease is much advanced, and, consequently, at the period when patients are obliged to resort to the hospitals. Proceeding to consider some of the points of diagnosis between these two forms, we find that in youth, adolescence, and the early period of mature life, from the sixteenth to the fortieth year, hæmoptysis most generally is dependent upon pulmonary tubercle, and that whether it is met with in hospital or private practice; but after the fortieth year, and still more after the fiftieth, it is no longer, generally at least, a sign of phthisis, but of disease of the heart. There are exceptions to this rule, but they do not invalidate its general truth. In phthisis bloody expectoration may either precede any other manifestation of the disease of which it may then be considered the earliest symptom, or it may appear in the course of the affection. Lænnec indicated its slight quantity as a characteristic, and regarded very abundant hæmoptysis as almost always due to pulmonary apoplexy. But he had little opportunity of observation in private practice. It is true that, in general, hæmoptysis is not abundant, but still there are cases in which it is overwhelmingly so, causing death by the sole fact of the loss of an enormous quantity of blood. Hæmoptysis, consequent on disease of the heart, is, notwithstanding, still seldomer overwhelming (*foudroyante*) than bronchial hemorrhage. It may

récur fifteen, twenty, forty, or fifty days in succession, without at once proving fatal. Of course, when dependent upon the rupture of an aneurismatic vessel into the bronchi, it may prove still more rapidly fatal than hæmoptysis supervening on phthisis. Besides the age of the patient and the progress of the symptoms as elements in the differential diagnosis, there is an important point in regard to the seat of the hemorrhage, viz., that while in phthisis it takes place generally at the bronchial surface, in diseases of the heart it is most often parenchymatous, first occurring in the pulmonary vesicles.

As to the question of the characteristics of bronchial and pulmonary sanguineous expectoration, it is said that bronchial hemorrhage is observed under the form of spumous, semi-fluid sputa, resembling blood beat up with air, and having a bright redness, deemed characteristic. The quantity discharged is said to be sometimes very slight, and sometimes very abundant, not being mingled with the debris of alimentary substances or mucosities. But this is far from being always the case, as the sputa may be as viscous as those seen in the first stage of pneumonia, or in pulmonary apoplexy, an appearance, probably, due to the slight accompanying inflammatory action, or to the accumulation and detention of the blood in the lungs. So, too, we may find the discharges mixed with alimentary substances when the hæmoptysis is undoubtedly connected with phthisis. Stethoscopic signs are often at default, or indicate as much, or even more, the pulmonary lesion upon which the hæmoptysis depends. Generally at the autopsy of persons who have been the subjects of bronchial hemorrhage, we only find, besides the lesions proper to phthisis, redness of the pulmonary mucous membrane, which, indeed, may be due to imbibition. If cavities exist, they may contain a certain amount of coagulated blood, and that usually when vascular ruptures take place within these: otherwise we only find a little blood accumulated in the bronchi.

With respect to pulmonary hemorrhage, we may advert to the erroneous term, "pulmonary apoplexy," which has been bestowed upon it, giving, as it does, no idea of the nature of the affection. It occurs in general during the course of an affection of the heart; and at the autopsy kernels of engorgement are found of as deep a color as the spleen, and as hard as those of pneumonia in its second stage. The tissue of the lung is friable, and presents the granular aspect of hepatized tissue, except that while in the latter the vessels and lobular intersections are visible, the hæmoptycal engorgement presents a uniform blackish, or very deep brown color. This lesion, which would be better termed sanguineous infiltration, bears no analogy to cerebral apoplexy, the term apoplexy always implying the idea of suddenness and active fluxion, a condition rather belonging to bron-

chial than pulmonary hemorrhage, which is ordinarily, to a certain extent, passive. There are, indeed, cases of true pulmonary apoplexy giving rise to sudden death, and characterized by the effusion of more or less blood amidst the lacerated lung. The term apoplexy would be much better applied to cases of active congestion of the lung, a not very rare disease, but which is rarely accompanied by hæmoptysis, properly so called. Gendrin proposes to substitute for the term pulmonary apoplexy, *pneumo-hemorrhage*, indicating without ambiguity an extravasation of blood into the tissues of the lungs. As to the distinctive signs in these cases of pulmonary sanguineous infiltration, the expectoration is generally viscous, sometimes red, and sometimes black, and even deep black. But, as in bronchial hemorrhage, the blood discharged is also sometimes black, so in the pulmonary it is sometimes spumous, and that especially when it is quickly and abundantly discharged.

While lesions of the heart are the usual causes of pulmonary hemorrhage, contraction and insufficiency of the mitral valve is the most common of these lesions, and especially when, as is commonly the case, it is conjoined with ventricular hypertrophy. These hemorrhages are sometimes very considerable, and may recur three, four, six, eight, or ten times in the course of the disease of the heart; at other times, though rarely, they are slight and transitory, and do not re-appear. When the lesion is much advanced, the patients may spit blood for one or two months, and sometimes until their death. The disposition of these hemorrhages is, in fact, to increase in frequency and in quantity as the disease of the heart—an effect of which they are—approaches its fatal termination.—[*L'Union Médicale*, and *Ranking's Abstract*.

A New Operation for the Radical Cure of Direct Inguinal Hernia.
By Mr. WOOD, House-Surgeon to King's College Hospital.

THE main features of this operation consist: 1st, in its being conducted subcutaneously, insuring a more ready and less painful healing; 2d, in the introduction into the canal of the two layers of superficial and intercolumnar fasciæ, which are unusually abundant and strong under the condition of hernia, and which are made to cohere into a solid plug by adhesion of their opposed surfaces, made raw by the subcutaneous separation from the skin, and are also supported and kept in position in the canal by the new adhesions contracted below by the skin from which they were separated; 3d, in the drawing together and close union of the sides of the enlarged external ring by the lateral traction of the ligature upon them, caused by its passing

through the same opening in the skin and in the compress upon it, and tying them down by consequent permanent adhesion to the invaginated plug of fasciæ behind them; and 4th, in the firm compression made upon the part during the formation of the adhesions, and their consequent greater extent and firmness, by the traction of the ligature upon the boxwood compress.

Mr. Wood is of opinion that the distinct evidence as to the position of the hernial sac of peritoneum and of the cord through the opening in the skin, and the great certainty that the feel of the tube gives, that its position at the extremity is close behind the aponeurosis of the external oblique, and has no intervening structure to be voided between it and the surface, remove almost entirely the danger of puncturing the sac in this operation; while he supposes that the succeeding pressure may operate after a while in producing adhesions of the opposed surfaces of the doubled-up sac. The operation leaves no dimple or deformity whatever; the cicatrices are very small and slight, and after a time will become nearly imperceptible.

CASE. John C—, æt. 25, a printer, applied at the hospital with a direct inguinal hernia on the right side, to which he had been subjected eighteen months, with frequent obstruction and constipation of the bowels, and after meals had suffered from great pain and distress in the part. He has tried several trusses none of which had power to retain the bowel. The last he tried produced such irritation as to give rise to a series of abscesses in the groin, which was the direct cause of his application. The abscesses being healed, and the patient disposed to submit to an operation for permanent cure, the following was performed:—

On examination, he was found to have a hernia projecting into the scrotum, producing a tumor, which he said sometimes reached the size of his two fists. On reducing it, the external ring and the internal opening were found to be enlarged, so as to admit the ends of three fingers, the margin being lax and loose. On the slightest cough or exertion the bowel immediately dropped down into the scrotum.

Description of the Instruments.—The instruments used in this operation consists of: 1st, a tube two inches and a half long, mounted on a strong handle, about three inches and a half in length, curved in a circle of an inch and a half radius, and flattened into an oval at one end, and forming a linear aperture a quarter of an inch wide at the point; 2d, a strong needle having a corresponding curve, with a perforated point, projecting a full inch beyond the end of the tube when passed through it, and mounted on a strong handle; 3d, a box-wood pad or compress, two inches by one and a quarter, perforated by a hole at half an inch from one end, and crossed longitudinally by a bar of iron-wire screwed on to the upper surface; 4th, a subcutaneous

section-knife, with a sharp point, a narrow blade, and an inch of cutting edge.

Operation.—The patient being laid on his back, with the legs a little drawn up, and the hernia returned, an incision, about three-eighths of an inch long, was made through the skin only, over the cord, about an inch and a half below the external ring, with the subcutaneous knife, which was then carried close under the skin, so as to separate a circle of the superficial fascia around the opening of two inches in diameter. The detached fascia was pushed up into the inguinal canal by means of the curved tube, the end being placed through the opening in the skin. The extremity of the tube was then carried behind and close to Poupart's ligament, or the external pillar, to the extent of an inch and a half from the pubic spine. It was then felt, by depressing the handle, to raise the external pillar upon the extremity. The needle carrying the thickest silk ligature was then protruded through the tube, and pushed through the external pillar and the skin, the latter being previously drawn considerably downwards and outwards. The needle was then withdrawn, leaving one end of the ligature on the surface. The end of the tube was next shifted upwards and inwards, and made to protrude behind the internal pillar, as far as possible from its margin. Through this the needle was then passed, and the skin moved upwards and inwards till the point appeared at the opening previously made. The ligature was then freed, and the needle withdrawn, the tube being still held firmly in its position. The ends of the ligature were next passed through the hole in the box-wood compress, one on each side of the wire bar, over which they were then drawn close and tied firmly, so as to retain the pad close down to the end of the tube in the canal, which was then withdrawn. It will thus be seen that the first passing of the needle pierces not only through the external pillar of the external ring, but through the origin of the internal oblique and cremaster muscles, from Poupart's ligament behind it; and at the second passing it goes through not only the internal pillar, but also the conjoined tendon of the internal oblique and transversalis muscles, which is placed behind it, so that the sides of the inguinal canal are drawn together from end to end by the ligature. The wound in the skin of the scrotum was drawn firmly together by plaster, a fold of linen placed upon it, and the whole secured by a spica bandage; the patient being ordered to remain in bed, and to use no exertion whatever.

The bandage was removed on the third day, when the subcutaneous puncture was found completely healed by the first intention. The compressed ligatures were retained till the fifth day, some cedema and suppuration having by this time appeared around them, with considerable soreness and pain in the groin.

The opening for the ligature looked red, healthy, and suppurating. It was dressed with wet lint, oil-silk, a large compress, and spica bandage. In a fortnight it was completely healed. No irritation or swelling of the testicle occurred in the course of treatment, nor any symptom of peritonitis.

At present, three weeks after the operation, the external ring is felt by the finger, pushed up beside the cord, to be completely blocked up by a broad band of fascia passing across it and up along the canal, with the cord passing by the lower part. The sides of the canal are felt adherent and consolidated. There is no *ballotement* whatever felt on coughing; the groin of the side operated upon being more firm and resistant, in fact, than the opposite, which has always been a little weak. The patient was ordered to wear a truss for some months, to consolidate the part and protect the newly-formed tissues. The skin is firmly adherent to the subjacent structures at the point of the punctures and subcutaneous separation. He has since undergone a severe test as to the efficacy of the cure, in an attack of bronchitis, from which he has completely recovered, without in the least affecting the site of the hernia.—[*London Lancet*, and *Ibid*.

Preparation of Anti-Asthmatic Cigarettes. By M. DANNEY, Pharmacien of Bordeaux.—Some of the properties of stramonium and belladonna—which plants, when smoked, justly enjoy the reputation of relieving asthma, and which are employed with the most undoubted success in the treatment of neuralgia—exist also in plants abounding in nitrates. Thus I have seen patients who had experienced great relief from the use of the leaves of borage pellitory plants containing, as is well known, much nitrate of lime.

The fault which almost all patients find with narcotic plants, smoked in pipes or in the form of cigarettes, is a copious production of smoke, which fatigues them and sometimes excite cough—a symptom they are, on the contrary, employed to allay.

In order to obviate this inconvenience, I have added nitre to the leaves of belladonna and of stramonium, by watering these plants, dried and conveniently spread out, with a solution of nitrate of potash, in the proportion of three ounces of the salt to rather more than two pounds avoirdupois of the plants. It will be easily understood, that as this solution penetrates the entire vegetable tissue, the latter will, when dry, burn completely, without the formation of the pyrogeous products above alluded to.

I have for many years prepared cigarettes according to this formula, and the benefit derived from their use by a great number of patients induces me to publish it, and to call the attention of practitioners to this mode of treatment, consisting in the smoking of narcotic plants combined with nitre.—[*Journal of Materia Medica*.

EDITORIAL AND MISCELLANEOUS.

MEDICAL COLLEGE OF GEORGIA.—The Dean's Report, which we give below, develops a most encouraging condition in the affairs of the Medical College of Georgia. While such continued prosperity is well calculated to strengthen the resources and extend the influence of the Institution, we are certain that, each member of the faculty feels that a yearly increasing responsibility devolves upon him by the unvarying confidence reposed in the College as a reliable and efficient centre for the promulgation of sound medical doctrine. How fully they have discharged these responsibilities, during a period of nearly thirty years, can be more properly answered by their numerous and influential alumni now to be found in every portion of the South and West.

ANNUAL REPORT OF THE DEAN.

To the President and Members of the Board of Trustees of the Medical College of Georgia :

GENTLEMEN—By direction of the Faculty of the Medical College of Georgia, I herewith present to you the names of the following gentlemen, who having complied with all the regulations of the College, and having undergone satisfactory examinations, are hereby recommended to you for the Degree of Doctor of Medicine, viz :

H. H. Hodges,	of Alabama.	J. R. Slayton,	Alabama.
W. W. Peel,	Georgia.	M. M. T. Huchingson,	Florida.
R. T. Cochran,	"	J. W. Linn,	Georgia.
W. L. Graves,	Alabama.	J. T. Moore,	"
D. W. Patton,	S. Carolina.	J. R. Knox,	"
Ralph Davis,	Alabama.	W. F. Thomason,	"
E. R. Young,	Georgia.	W. R. McRee,	"
N. S. McCants,	S. Carolina.	D. C. Young,	Tennessee.
P. O. Sullivan,	"	F. M. Matthews,	Georgia.
L. A. Purvis,	"	T. S. Matthews,	"
W. J. Burton,	Alabama.	H. H. Matthews,	"
R. M. Sharpe,	Georgia.	Geo. S. Orr,	"
W. E. Link,	S. Carolina.	W. H. McClure,	"
W. W. Johnson,	Florida.	J. J. Stephens,	Alabama,
W. L. Mills,	Georgia.	W. W. Hearndon,	Georgia.
J. T. Mann,	"	L. D. Johnson,	"
C. W. Duggan,	"	J. H. Glover,	S. Carolina.
D. J. Williams,	"	J. S. Blain,	Georgia.
J. F. Baggot,	"	E. F. Sharp,	Alabama.
B. McD. Daniel,	"	J. H. Hall,	Georgia.
B. R. Hildreth,	S. Carolina.	J. L. Brockman,	"
M. M. Pitts,	"	A. T. Rowe,	"
C. A. Bates,	Georgia.	J. T. Andrews,	"

A. M. Settle,	S. Carolina	E. M. Roberts,	Georgia.
D. R. Cumming,	Georgia.	L. D. Matthews,	"
Wm. Clark,	"	H. W. Cogburn,	"
C. D. Snipes,	Alabama.	J. A. Vigal,	"
B. S. Isbell,	"	A. J. Matthews,	"
W. C. M. McConnell,	"	W. A. Greene.	"

They also recommend that the Honorary Degree of M. D. be conferred upon Rev. W. H. Clark, Missionary to Central Africa, and Dr. Wm. B. Gilbert, of Clay county, Georgia.

The Faculty report, that there were in attendance upon the Course of Lectures which has just terminated One Hundred and Sixty-five Students, of whom One hundred and twelve were from Georgia, Twenty-one from Alabama, Twenty-six from South Carolina, Two from Florida, One from Tennessee, One from North Carolina, One from Texas, and One from Mississippi. The general deportment of the Students, and their attention to the Lectures have been highly satisfactory.

Respectfully submitted in behalf of the Faculty.

(Signed,)

I. P. GARVIN, Dean.

Medical College of Georgia, }
Augusta, March 1st, 1859. }

MEDICAL SOCIETY OF THE STATE OF GEORGIA.—The Atlanta Medical and Surgical Journal calls attention to the approaching meeting of this highly important Body, and we here take occasion to second the call, and to urge a full attendance of members. "It would be a work of supererogation," says the Editor, "to go into an argument to prove the advantages of Medical Associations, and this is not our object; but we feel that something ought to be done to arouse the medical men of the State from their apparent forgetfulness of the great interests which they have involved in the question, whether the State Medical Society shall be the instrument of the incalculable amount of good, it may be made to accomplish."

Nothing will so fully subserve the object for which our State Society was instituted as the punctual and full attendance of its members; then, the two-fold object of the association is accomplished; 1st, scientific advancement, and 2ndly, the establishment of, and the promotion of kind and harmonious relations between the Physicians in distant portions of the State. There is little encouragement to make extensive research and to prepare elaborate Essays when they are to be read to but a handful, however intelligent they may be, and hence the members who are delinquent in their attendance, do much injury to the society, by depriving it both of its interest and its usefulness. In order to refresh the memory of all concerned, we here re-publish from the minutes of the last meeting,

the names and assigned duties of the various appointees, whose compliance with the request of the Society, is to give interest and profitable discussion to the approaching session.

"Dr. E. W. Hunter, of Louisville, was, by ballot, elected to deliver the oration at the next annual meeting. Dr. G. L. McClesky, as his alternate."

The Committee on *Essays* reported the names of the following gentlemen as Essayists, for the next Annual Session of the Society:—

Drs. H. W. D. Ford, H. F. Campbell, Robert Campbell; Dr. Smith, of Griffin; Dr. E. Hillyer; Dr. Stewart, of Pike county; Dr. G. B. Knight; Dr. S. H. Dean; Dr. W. F. Westmoreland; Dr. W. H. Doughty, of Augusta; Dr. Juriah Harris; Dr. J. G. Howard; Dr. R. D. Arnold; Dr. V. H. Taliaferro; Dr. Joseph A. Eve; Dr. A. M. Boyd; Dr. Joseph P. Logan; Dr. H. W. Burns; Dr. J. M. Green; Dr. T. B. Ford, and Dr. G. L. McClesky.

The day for the next meeting of the Society, is the Second Wednesday of April 1859, (next month). Place of meeting, the City of Atlanta. We earnestly hope for a full attendance, which always secures an interesting meeting.

Diseases of the Urinary Organs. A Compendium of their Diagnosis, Pathology and Treatment. By WILLIAM WALLACE MORLAND, M. D., Fellow of the Massachusetts Medical Society, etc., etc. With Illustrations. Philadelphia: Blanchard & Lea. 8vo., pp. 579. (For sale by Messrs. Thos. Richards & Son, Augusta, Ga.)

It is seldom that we have to complain that an author does not do himself justice in his title page, and still less frequently do we find him claiming too little in his preface. In both these particulars we find Dr. Morland deficient to an extent, even calculated to injure the sale of his excellent work. Any one reading the title of the book would never suspect its comprehensive scope, that instead of being a work which treats simply of the Diseases of the Urinary Organs, it also comprehends a most particular and complete account of the most approved methods, both medical and surgical, of treating each one of these diseases. Stricture, in its multifarious forms, Enlarged Prostate, every variety of Calculous disease, with the various operative procedures necessary for their cure, are all fully and judiciously discussed and the operations carefully described. This work is a valuable addition to the library of Practitioners, as it furnishes a very useful manual for convenient reference in a class of diseases which, while they are very common, are, unfortunately, but little understood by most Practitioners. In typographical execution the work compares well with all others issued from the excellent establishment of

Messrs. Blanchard & Lea. We cordially recommend it to our readers as one of the best monographs upon the important subjects of which it professes to treat.

Concentrated Organic Medicines; being a practical exposition of the Therapeutic Properties and Clinical Employment of the Combined Proximate Constituents of Indigenous and Foreign Plants, to which is added a brief history of Crude Organic Remedies, Constituents of Plants, Concentrated Medicines, Official Preparations, etc., etc. By GROVER COE, M. D. New York: B. Keith & Co. 1858. pp. 422, 8vo.

THIS is doubtless a useful book to those particularly interested in the subjects of which it treats. We have not read the work, but in many places upon which our eye has fallen the *Text* smacks somewhat of the advertising tendency, while the *Illustrations* indicate that penchant even more decidedly. The frontice-piece is a picture of the Author, and opposite page 109, is a picture of the Publisher. From this exhibition of the fine arts, we are led to suspect that the work has been both written and published more for the *benefit* of B. Keith & Coe, the Publisher and Author, than for that of its readers. Doubtless our readers may find it advantageous to buy their *medicines*, but we cannot consistently advise them to buy their book.

Diphtheritis.—In an article on this truly appalling disease of children, Dr. Richard Cammack, jr., says that the disease is of recent growth in England, and has never been fully treated upon in books; but he has no doubt, isolated cases had occurred in England before its specific nature had been discovered. The Pathology of the disease rests with the French. M. Bettonneau, of Tours, is the first to give a full and accurate account of it. It often comes on suddenly like Influenza, Cholera, and Erysipelas, without warning symptoms. In the mildest forms even, there is a *tendency to ulceration* beneath a white, loosely attached epithelium, coagulated with viscid mucus and lymph. (This tendency has not been observed, even in the severer forms in this country.) The specific cause is atmospheric—"as in typhus, cholera, and potato-rot." Debility, cess-pools, and all nuisances, predispose to it. Taking cold drinks when overheated, sudden changes of temperature and over exertion are exciting causes.

Treatment, he thinks, should be antiseptic, tonic, stimulating and nutritious, to which we would add, as indispensably necessary in this country, *antiperiodic*, with efficient doses of *Quinine*.

He recommends a well ventilated room, the exclusion of cold drinks, a calomel purgative in the beginning, and in some cases, continued in

small, repeated doses. He thinks teething children are most liable to inflammatory symptoms.

He advises hydrochloric acid, from 1 to 10 minims, every three or four hours, in a decoction of cinchona. Common salt and vinegar, a tablespoonful of each, in a teacupful of hot water, he says, "excels all other gargles." He applies the stick of nitrate of silver over the whole surface on which the white exudation appears—rubs the external fauces with comp. ointment of iodine night and morning—gives beef-tea, rich gruels and boiled milk, and hot Port-wine sanger, with lemon and sugar, for all above ten years. Every thing should be taken warm, as cold drinks often excite the disease.

He says the disease is not infectious unless, perhaps, under extraordinary circumstances.

SCRAPS OF PRACTICE.

Remedy for Asthma.—We have used the following for years, as a convenient remedy in a great many cases of Asthma: indeed, there are but few circumstances under which it will not be found applicable. The urgent symptoms yield to it in a few hours, and when promptly administered on the first appearance of the symptoms the attack is often prevented.

R. Of Ætherial Tinct. of Lobelia (Whitehall's)	℥ij.
Tincture of Assafoetida,	} a a.
Laudanum,	
Syrup of Tolu—or Simple Syrup,	℥iv.

Mix. Dose, for adult, from a teaspoonful to a tablespoonful every one or two hours, according to the urgency of the symptoms.

The laudanum obtunds the nervous excitability upon which the attack often depends, while the lobelia relaxes the spasm, and promotes the free secretion from the mucous membrane. If necessary, the amount of laudanum may be reduced to avoid narcotism. We usually advise each patient to keep the remedy prepared, and to begin taking it on the approach of the attack.

H. F. C.

Iodine and Glycerine in Scrofulous Ozæna.—This remedy has been suggested for Scaly Eruptions on the skin. In an obstinate case of Ozæna, which applied to us recently, we recommended it in the following proportions:

R. Of Iodine,	. . .	grs. ij.
Glycerine,	∴ ∴	℥j.

Mix, and apply to affected Schneiderian membrane three or four times a-day. The case was cured in less than a month. During the time that

the above external application was used, the following was taken internally :

R. Of Iodide of Potassium, ʒij.

Huxham's Tincture of Cinchona, . . . ʒviij.

Mix. Dose, one tablespoonful three times a-day, in sweetened water.

H. F. C.

Turpentine externally applied in Puerperal Peritoneal Tenderness.—

In a recent case of labour, which was under our care, extreme tenderness in the hypogastric and iliac regions was presented on the eighth day. The patient had fever at night and suffered with thirst. The tenderness extended in a slighter degree up to the umbilical region. The bowels were moved by a wine-glassful of Olive oil, and the following external application made :

R. Of Spts. of Turpentine, ʒij.

Olive oil, ʒvj.

Mix. Heat the mixture in a sand or water bath. A woollen flannel was then dipped into the liniment and applied, as warm as the patient could bear, in several folds, over the entire tender region. The patient obtained the most conspicuous relief from the application, though we deemed it safe subsequently to resort to a blister in the same case.

Turpentine stupes were strongly recommended in chronic pneumonia some years ago, by a writer in the London Lancet. Flannel was used in the application. The folds were confined to the chest by a many-tailed bandage, and the liniment renewed every night at bed-time. We have much confidence in the external application of turpentine in a variety of cases.

H. F. C.

Lime Water for Boils.—Some one, under the impression that these troublesome and often obstinate nuisances are of an *acid origin*, has recommended the free use of alkalies. The English practitioners use "liquor potassæ" for a great many diseases, but in the case of boils we have used Lime water, $\frac{1}{2}$ oz. three times a-day, in a tumbler of either milk or water, for years. We find it the only remedy which exerts any control over the furunculous diathesis; whether it be acid or not, certain it is that under the use of Lime water the boils often dry up even when considerably advanced, and succeeding crops are prevented by continuing the use of the remedy. Milk and Lime water are by no means unpleasant. This is more than can be said of the boils.

H. F. C.

Artificial Pupil and Reclination of Lens.—Mr. Critchett (*Ophthalmic Hospital Reports*) suggests that the operation of artificial pupil be per-

formed by including a portion of the Iris in a ligature, and Mr. Solomon, in the same periodical, proposes that reclinacion of cataract should be done with *two* needles instead of one, as formerly.

AMERICAN MEDICAL ASSOCIATION.—The twelfth annual meeting of this Association, will be held in Louisville, Kentucky, on Monday, May 3d, 1859. The Secretaries of all Societies and other bodies entitled to representation in the Association, are requested to forward to the Secretary, S. M. Bemiss, at Louisville, correct lists of their delegations so soon as they may be appointed. The Convention of Teachers, invoked by a resolution of the National Association, for the purpose of a general conference upon the best means of elevating the standard of Medical Education in this country, will meet in the same city on Monday, the 2nd of April.

Medical Journals throughout the United States are requested to insert the above.

S. M. BEMISS, M. D.

Sec'y American Med. Association.

Elixir Cinchonæ, or Elixir of Calisaya Bark. By ALFRED B. TAYLOR.

[The following is one of the most beautiful preparations of Cinchonæ we have ever seen. It will probably replace the ordinary tinctures at present in use. We are glad to be able to present the formula to our readers.—EDTS. SO. MED. & SURG. JOUR.]

R.	Best calisaya bark,	- - - - -	ʒiv.
	Fresh orange peel,	. - - - -	ʒij.
	Ceylon cinnamon,	- - - - -	
	Coriander seed, āā	- - - - -	ʒj.
	Anise seed,	- - - - -	
	Caraway Seed,	- - - - -	
	Cardamon seed,	- - - - -	
	Cochineal, āā	- - - - -	ij.
	Brandy	- - - - -	℥iiss.

Having bruised the articles well, and allowed them to macerate for twenty-four hours in sufficient of the brandy to moisten thoroughly, transfer to a displacement apparatus, and add the rest of the brandy; then displace carefully with a mixture of three parts of water and one part of alcohol, until six and a half pints of tincture are obtained; to this add two and one-half pints of simple syrup, and mix thoroughly.

[American Journal of Pharmacy.]

IMPROVEMENT IN THE PLASTIC EXECUTION OF THE HARE-LIP OPERATION.

[We have ourself, acted upon the following suggestion, in the operation for Hare-lip in two cases, with the most satisfactory results. The central notch, so common with the ordinary operation, was entirely avoided. The operation, as described below, however, is not correctly represented—a

portion of the *vertical* border is retained in paring the hare-lip and converted into *horizontal*, and *not* the *horizontal* converted into *vertical* as here described.—H. F. C.]

“Sédillot suggests, warranted by his own success, to convert a portion of the horizontal border of the hare-lip into vertical, procuring thereby the natural prominence of the middle of the upper lip, which by the method hitherto pursued, remained thin and left the teeth visible. Even the most successful operations by the present mode, have a deficiency in this respect, which is entirely avoided by his method. How much of the horizontal border is to be excised to make the desired bulging edge, must be determined by the operator, according to the individual case.”

Nature's Great Disinfectant.—Monsieur Scoulteten, head physician of the Military Hospital at Metz, has published a book on the new-found body called by chemists *azone*, which probably contains the newest as well as the most reliable facts in reference to this interesting subject. A very careful analysis of this work was published in a recent number of “Household Words,” and we gather from this source a few points of interest, which we believe are not generally known.

The latest and most accurate experiments of French chemists have proved that ozone, at first supposed to be an odorous principle, emanating from a simple elementary body, and afterwards a compound of oxygen and hydrogen, is nothing more nor less than oxygen electrified. It is colorless, of a penetrating nauseabund smell, and is the most powerful agent of oxydation known. It oxydizes cold silver and mercury, when both are moist, destroys organic coloring matters, as well as ligneous and albuminous matters. It is produced naturally in the air whenever an electric discharge takes place; and it may be prepared artificially in the laboratory, the simplest mode being to plunge a stick of phosphorus half in air and half in water. It is a little curious that the odor given off by artificially prepared ozone, is identical with the odor which spreads itself around a spot stricken with lightning; and it is believed that the odor of the air traversed by lightning is owing to the formation of ozone.

Passing over all that has been said in reference to what this new found substance is expected to accomplish in the arts, in chemistry and in agriculture, we come to the main fact that it has the power to destroy sulphuretted hydrogen; that it is readily absorbed by a great number of vegetable and animal substances; that it extirpates all oxydable miasms, and is the most powerful disinfecting agent yet discovered. Stranger still, this invisible fluid pervades the whole earth; it is manifested in very decided quantities over sheets of water,—and the air, in its normal state, contains one ten-thousandth part of ozone. It has been found that when the proportion is raised to one two-thousandth part, it is powerful enough to kill small animals. So delicate are the calculations in the mammoth laboratories of Nature!

Although the study of ozone has scarcely advanced beyond its rudiments, the facts already known are curious and interesting. By the means of slips of paper, impregnated with iodide of potassium and starch, some of the chemists have carried on a series of experiments by which

they can measure the quantity of ozone in the atmosphere at any given time. The prepared paper is called an ozonometer; and there is an ozonometer scale, running from one to ten. These tests are not always satisfactory, but it has been found that ozone is more abundant in the upper regions of the air than in the lower strata,—an observation which is justified by experience in reference to the healthy effects of mountain air. It has also been ascertained that ozone is found to be absent in inhabited dwellings, upon which the writer whose statements we are collating, remarks that “a clue is thus given to the different effects upon the health produced by indoor exercise and out door exercise, by town life and country life, by labor in a metropolitan workshop, and labor in the open fields.” Experiments were made in the hospitals at Versailles and Metz, for days together, without showing the slightest trace of ozone, while slips hung outside of the windows gave seven, eight and even ten degrees of the ozonometric scale.

We shall not go any further into the facts and theories of these French chemists, nor follow them in their speculations and experiments as to the effects of the deficiency or excess (for there can be too much of a good thing) of ozone in breeding miasmatic fevers, epidemics, and influenzas. It is sufficient for us to know that a kind Providence has provided a vast disinfecting agent which constantly sweetens the polluted air and destroys the noxious gases which spread themselves around the manufactories and haunts of men. Nature is constantly ventilating herself; it is only man who shuts himself off from the wholesome influences of the fresh, Heaven-sent air. The all pervading ozone comes to us continually from the thunder storm, or the invisible electric current, or from the surface of the rivers and seas; but from the owners of the overcrowded tenement house to the whole race of sextons, janitors and car-conductors, no one seems to take the hint given by nature's great disinfectant, although the best physicians have asserted, and dinned it into the ears of the public for years, that scrofula, consumption, and other malignant forms of disease, are produced and perpetuated by a neglect of a proper system of ventilation.—[*Newspaper*.]

Mode of Growth and Increase of Muscular Fibre.—M. Budge, by a new method of dissection, which consists in dissolving out the areolar tissue between the fibres, so that the muscular fibres alone remain, has been able to follow out the different conditions of their development in animals of different sizes. He has satisfied himself that the increase of muscles arises both from augmentation in thickness and in length of each existing fibres, and also from the formation of new fibres; and that under the influence of rest, or of absence of nutrition, the fibres diminish in volume, and that some of them disappear.—[*Académie des Sciences and Virginia Med. Journal*.]

DR. THOMAS WATSON has been appointed Physician Extraordinary to Her Majesty, Queen Victoria, in place of the lamented Dr. Richard Bright. Dr. Watson is well known to the profession for his high character and distinguished attainments, and as the author of the “Principles and Practice of Physic.”—[*Boston Med. & Surg. Jour.*]

SOUTHERN MEDICAL AND SURGICAL JOURNAL.

(NEW SERIES.)

Vol. XV.]

AUGUSTA, GEORGIA, APRIL, 1859.

[No. 4.

ORIGINAL AND ECLECTIC.

ARTICLE IX.

Observations on Malarial Fever. By JOSEPH JONES, A.M., M.D.,
Professor of Medical Chemistry in the Medical College of
Georgia, at Augusta.

[Continued from page 172 of March No.]

CASE LI.—German, aged 40: height 5 feet 9 inches; weight 150 lbs.; black eyes, black hair, sallow complexion; occupation, bar-keeper.

October 16th, 1857, 8 o'clock P. M. Has just entered the hospital. Is unable to give coherent answers, and is either stupid, or unable to speak the English language. His companion states that this patient has been in Savannah for two months, and has been sick with chill and fever for two weeks. He is exceedingly weak, and his intellect wanders. Pulse 112, rather feeble.

R. Calomel, grs. xii.; sulphate of quinia, grs. vi. Mix: administer, and follow with castor oil in four hours.

R. As soon as the calomel has acted once, commence with sulph. of quinia, grs. v. every three hours, up to grs. xx.

October 17th, 11 o'clock A. M. When I saw this patient last night, I supposed that the stupidity, and difficulty of speech, were due, in great measure, to the fact that he was a foreigner, imperfectly acquainted with our language. Careful examination this morning, however, shows that the difficulty of speech, and torpor of intellect, is dependent upon the effects of the malarial poison, (either directly or indirectly,) upon the brain. When questioned, endeavors to converse—commences sentences, but is unable to finish them.

Pulse 124, very feeble; respiration 28. Tongue, dry, hard and rough, and coated with dry, brownish-yellow fur. The

tongue feels very hard and rough. There is not moisture enough in his mouth to produce any sensible effect upon a bit of paper pressed against the tongue. Skin, warm and dry. The temperature of the skin corresponds to the feebleness of the pulse, but not to its frequency, and not to the frequency of respiration. Says that he feels well.

R. Mustards to extremities; cut-cups to temples and back of neck.

R. Administer freely, brandy, infusion of Virginia snake-root, spirit of Mindererus, and sulphate of quinia.

8 o'clock P. M. The cut-cups and mustards aroused him for a short time, but he has relapsed into the state of partial stupor, in spite of the action of the sulphate of quinia and stimulants.

R. Continue stimulants, infusion of Virginia snake-root and sulphate of quinia.

Oct. 18th, 11 o'clock A. M. No improvement. Tongue very red at edges and tip, which are free from fur. Surface of tongue coated with dry, yellow fur, and presents the same dry, rough feeling and appearance. Teeth coated with sordes. The pulse is so rapid and feeble that it is almost impossible to ascertain accurately its number of beats—it feels like the delicate pulsations of a minute capillary filled with water. The pulsations cease, as soon as the slightest pressure is made. Pulse 155 to minute. The heart merely thumps (flutters). The two sounds are merged into one, and cannot be distinguished. The sounds of the heart correspond in number to the beating of the pulse—155 to the minute. The correspondence of the two was examined, not only by separate calculation, but also by applying the ear over the region of the chest, and the hand over the pulse, at the wrist. Respiration 34, spasmodic. Skin covered with cold, clammy sweat. Extremities are at least 20 degrees below the normal standard. Trunk and head feel cold—they are several degrees below the normal standard.

The action of the heart is feeble—the capillary circulation is exceedingly feeble and sluggish—the distribution of the nutritive and force elements is correspondingly retarded, and as a necessary consequence, the chemical changes are diminished and altered both in quantity and kind.

The patient is very restless, tosses about the bed, and is with the greatest difficulty retained in bed. Passes his water and feces in bed. Intellect wandering—talks incoherently—says that he is perfectly well and wishes nothing but water. When aroused, his eye looks bright, and there is no expression of pain or uneasiness upon his countenance.

During the last thirty-six hours, has taken 50 grains of the sulphate of quinia, together with large quantities of stimulants. Mustards have been frequently applied. The effect of these

remedies appear to be only palliative, they have produced no permanent beneficial effect. Whenever the mustards and stimulants were withheld, the forces diminished rapidly and the patient would relapse almost into a profound stupor. The action of the mustards was very slow, on account of the sluggish capillary circulation.

R. Continue stimulants—apply bottles of hot water to the extremities—administer 10 grains of the sulphate of quinia, immediately, and repeat every three hours.

R. Blister to back of neck.

9½ o'clock P. M. The mustards and stimulants aroused him, and at 6 o'clock P. M., this evening, his pulse was fuller, his tongue was moister, his intellect clearer, and the restlessness had in a great measure disappeared. The patient, during the momentary absence of the nurse, got out of bed, and attempted to walk across the floor, to the bucket of water at the other end of the ward. He had not proceeded more than five steps, before he fell upon the floor, completely exhausted. Almost immediately his pulse became more frequent and feeble, in fact, almost entirely disappeared, and his extremities became much colder. Mustards were again applied and stimulants administered. Under the action of these, his circulation, both general and capillary, was increased somewhat in force, and his exhausted forces revived.

Now, his pulse is 135, and his respiration 32. The sordes on the teeth, which were this morning perfectly dry, are moister—the tongue is moister—the pulse is fuller (although still exceedingly feeble and flickering) than it was this morning.

There is an unnatural brilliancy about his eye, and excitement about his intellect. He converses freely for the first time—says that he feels perfectly well, and wishes to go immediately home to the hotel, and take the place of the bar-keeper, who, he says, is sick. Complains bitterly of being confined to bed, when nothing is the matter with him, and when he feels as strong and as well as he ever did in his life. Has been quarreling with the nurse, and threatens vengeance, because he confines him to bed and will not allow him to dress himself and go and drink freely of water. Complains greatly of thirst—keeps his eye fixed on the vessel containing water, notwithstanding that he is liberally supplied. Has vomited several times. The blister is acting, and the serum is of a golden color. Has taken 30 grains of the sulphate of quinia since 11 o'clock this morning.

Has just passed urine: it is perfectly clear and amber-colored. The color of the urine is in striking contrast to that of patients who are able to resist the effects of the malarial poison to the extent of the production of the febrile excitement. When the constitution is able to cope with the malarial poison, we have a

rapid pulse, rapid respiration, high temperature, rapid chemical change, and high colored concentrated urine. Specific gravity of urine, 1015·3—reaction strongly acid. The urine changed the litmus blue paper to as bright a red as a strong mineral acid. The rapidity of the change also corresponded to the action of a powerful acid. After standing 70 hours, the reaction was still decidedly acid, and there was no deposit of any kind. When the urine was evaporated, the residue was a dark reddish-brown viscous mass, resembling tar. After prolonged, tedious and careful evaporation, it was found to be impossible to reduce it to a solid state. When the urine, concentrated to the consistence of a syrup, was treated with nitric acid, there was a slight effervescence, and a few crystals, appeared. These crystals were transparent, and resembled rather crystals of saltpetre than the silvery crystals of nitrate of urea. After standing for a short time these crystals disappeared, and did not again appear even when the fluid was concentrated by evaporation. If these crystals were nitrate of urea, the whole amount existing in 1000 grains of urine must have been less than 2 grains. In a fluid ounce of urine, not more than a trace of uric acid could be detected after careful examination. Under the microscope, a few small crystals could be detected, which were invisible to the naked eye.

Analysis of 1000 parts of urine contain—

Solid Matters, - - - - -	34.482
Water, - - - - -	965.518
Urea, - - - - -	a trace.
Uric Acid, - - - - -	a trace.
Ext. and Color'g and Organic Matters,	24.805
Fixed Saline Constituents principally } Phosphates, - - - - - }	9.655

The fixed saline constituents were principally the phosphates.

A short time after this observation, the excitement and restlessness of this patient disappeared, and he went into a profound sleep, and *died at 1 o'clock, A.M.*

(14.) AUTOPSY TWELVE HOURS AFTER DEATH.

Exterior.—Limbs and trunk round and full, and apparently in full flesh; the skin, over the whole surface except the face, presented a fair white color. There was no settling of the blood in the capillaries of the most dependant portions of the skin, producing the mottled appearance previously noticed. This may be due to the fact, that the patient was under the action of stimulants at the time of death.

HEAD.—*Dura-mater* normal. *Arachnoid* membrane opalescent (pearl-colored) in many spots. Serum was effused between the arachnoid membrane and pia-mater. Blood-vessels of pia-

mater filled with blood. Substance of brain was firm, and was altered neither in consistency nor in appearance. Blood-vessels of the substance of the brain not more distinct than normal. Ventricles of the brain were almost entirely filled with light yellow serum. Light-yellow serum was effused around the medulla oblongata, and superior portion of spinal cord. The effused serum appeared to fill completely the space between the spinal cord and its membranes, and the surrounding vertebral cavity. When the medulla oblongata, and superior portion of the spinal cord were removed, the serum flowed in (the shoulders being slightly depressed), and filled the vertebral canal.

CHEST.—*Lungs* normal. Blood-vessels of the dependent portions engorged with blood.

Heart, normal in size and structure. The ventricles and auricles contained clots; portions of these clots were free from colored corpuscles, and presented the yellow color of whipped fibrin. Surrounding and attached to these were ordinary coagula of blood. The vena cava and all the large venous trunks in the abdominal cavity, were filled with dark, almost black, coagulated blood.

ABDOMINAL CAVITY.—*Liver*, somewhat enlarged, presented a singular mottled appearance; at a distance, it presented a light bronzed color; upon nearer inspection, the lobules were found to be distinct, elevated, and of a light bronze color, whilst the spaces between the lobules inclined to a slate color. There were several spots, varying from two inches to half an inch in diameter, of a uniform slate color. The structure of the liver was unusually firm; it required considerable force to tear it asunder, it cut toughly under the knife, and the lobules started out from the cut surface as if they had been bound down. The fibrous capsule surrounding the exterior of the liver, and forming a sheath for the large vessels lying in the portal canals, was thickened, and the individual lobules of the liver were surrounded with fibrous tissue. These facts which were demonstrated, not only by the touch and naked eye, but also by the microscope, show that this liver was in a cirrhotic condition. Cirrhosis of the liver, in this case, was not caused by the action of the malarial poison, but in all probability by the habitual use of ardent spirits. This patient was a bar-keeper. Men in this occupation are, as a general rule, addicted to the free use of ardent spirits. The liquors drunk in this country, at the hotels and bar-rooms, contain much alcohol, which acts upon the secreting structures of the liver, and upon the blood-vessels, and excite adhesive inflammation in the areolar tissue, about the small twigs of the portal vein, and in the areolar tissue of the portal canals, by which serous fluid and coagulable lymph are thrown out. Under the microscope, the substance

of the liver contained many dark looking masses, resembling the altered blood corpuscles of the spleen, and the black granules and flakes of black vomit. These dark masses were not sufficiently numerous to have any marked effect upon the organ. When the fibrous capsule was torn off, it presented a light slate color, and yet, when magnified and carefully examined, but few of these dark masses were seen in the meshes. The structures of the liver, and the liver cells, contained numerous oil globules. These oil globules existed in sufficient numbers to induce the belief that the liver was in a state, not only of cirrhosis, but also of fatty degeneration. The blood-vessels of the liver were filled with dark blood, which did not change to the arterial hue upon exposure to the atmosphere.

The mottled appearance of the liver, and the want of that decided slate and bronze color, characteristic of malarial fever, were due, not to any peculiarity of the effects of the malarial poison, but rather to the pathological conditions of cirrhosis and fatty degeneration. Allowing due weight to these pathological changes, it is evident that the change in the color of the liver was similar, in all respects, to the slate or bronze color of livers which were normal before the onset of the malarial fever. The change in the color of the liver during malarial fever is due to changes in the amount, and physical and chemical constitution of the blood in the capillaries of the liver; and to the physical and chemical changes in the bile, and the contents of the secretory apparatus; and not to the deposition of black granules in the structures of the liver. I have seen the slate and bronze color as well marked in the liver, when these dark masses were absent, as in the liver where they were most abundant. The peculiar color of the liver is due in a great measure to changes in the coloring matter (hæmatin) of the blood. The blood will not change to the arterial hue when exposed in the atmosphere. This altered coloring matter, resulting from the destroyed disintegrated blood-corpuscles, or from the blood-corpuscles acted on by the malarial poison without actual disintegration, escapes and permeates the surrounding tissues, and imparts the peculiar color to the liver. The color is also due to the altered color of the bile. In all the cases of malarial fever which I have thus far examined, I have found the bile to be of high specific gravity—thick, concentrated and of a greenish black color when seen in mass, and of a gamboge yellow when spread in thin layers. The altered bile also infiltrates the surrounding tissues, and gives this peculiar color to the liver. This peculiar color can be, to a certain extent, abstracted from the liver by boiling with water. I have always found the filtered decoction of malarial fever livers to be of a brownish-yellow color, whilst the decoction of yellow fever livers is of a bright golden color, whilst that of

normal livers is of a light-yellow. After the altered coloring matters of the blood and bile have infiltrated the structures of the liver, they will sometimes remain for a considerable length of time without being absorbed, and communicate the peculiar bronzed color to the liver, long after the restoration of its normal functions, and the disappearance of the malarial fever. I have observed, however, that the intensity of the color of the liver, bears a marked relation to the time of convalescence: as convalescence advances, the color diminishes in depth.

The liver contained animal starch. Several of the hepatic ducts were isolated and treated with tincture of iodine, and carefully observed under the microscope. Their color, with the exception of a few small spots, was simply changed to that of the tincture of iodine. In these spots, the color was changed to a bright-blue. In other cases of malarial fever, I have seen long portions of the hepatic ducts changed to a bright-blue color under the action of the tincture of iodine. These facts would show that they do sometimes contain animal starch.

The *gall-bladder* was filled with concentrated bile of the consistency of molasses, and of the color (when seen in mass) of a saturated solution of iodine. When spread in thin layers the bile presented a gamboge color.

SPLEEN, enlarged: it was at least three times the normal size. The structures of the spleen were so much disorganized, that, in attempting to remove it from the abdominal cavity, the capsule and trabeculæ gave way under a slight pressure, and the fingers plunged into its soft substance. Dark brownish-purple, almost black, mud flowed from the rupture. After thirty-six hours' exposure to the atmosphere, the color of the mud of the spleen remained unchanged. Under the microscope, the mud of the spleen contained a great number of dark, reddish-brown, and reddish-black granules, and conglomerations of granules. These granules and black masses, composed of conglomerated granules, resembled the bodies found in the liver, and also the black sediment of the black vomit of yellow fever. Similar granules and masses have been observed in normal spleens. They appear, however, to be most abundant in the malarial fever spleens of long standing. In cases which have terminated fatally, after only a short illness of two or three days, I have observed that these granules were not so numerous as in cases of longer duration, and in some very recent cases they were not more numerous than in the spleen of health. These masses appear to be derived from the disintegrating blood-corpuscles.

ALIMENTARY AND INTESTINAL CANAL. *Stomach.*—Blood-vessels upon its exterior filled with blood. Mucous membrane bore no marks of inflammation, and was not more congested with blood than usual. The exterior and mucous membrane of

the jejunum presented the usual appearance. There was no unusual appearance either of congestion, irritation or inflammation. The mucous membrane of the ileum, especially at the lower portion, was more congested, and of a darker color than usual.

The intestinal canal throughout its entire length was empty. The mucous membrane presented a yellowish appearance, probably due to the presence of bile.

The solitary glands of the ileum, especially in the neighborhood of the ileo-cæcal valve, were numerous, enlarged, elevated, distinct, and of a brown color. When the intestines were held up to the light, the blood-vessels, filled with blood, could be distinctly seen sending off branches to each gland. The glands of Peyer were large, distinct and elevated. Several of these glands in the lower portion of the ileum were three inches in length. These glands, however, were not inflamed, as in typhoid fever, but presented the usual pale appearance.

Kidneys.—Each kidney had upon its inferior surface a spot about one inch in diameter, of a slate color, resembling in all respects the color of the exterior of the malarial fever liver and spleen. When these portions of the kidney were cut, they presented a bronzed color, for the depth of $\frac{1}{8}$ th of an inch. Microscopical examination showed the absence from these portions of the kidney of those granules and brownish-red and reddish-black masses, so abundant in the spleen and liver. Microscopical examination showed that the excretory structures of the kidney was not altered in these discolored portions. These facts sustain the assertion that I have previously made, that the color of the liver in malarial fever does not depend upon the diffusion through its substance of dark granules and granular masses. The bladder was empty. The scrotum was reddened, and appeared to be blistered and excoriated. This was due to the action of the intensely acid urine.

CONCLUSIONS.

1. This case corresponds to the congestive fever of American writers. The prominent symptoms of this case were—rapid, feeble pulse; rapid, thoracic respiration; relaxed skin, with cold, clammy sweat; sluggish capillary circulation; deficient and perverted chemical action; reduced temperature; deranged physical, muscular and nervous forces; and aberrated intellectual action.

2. The rapid, feeble action of the heart—the rapid, feeble pulse—the almost entire arrest of the circulation and chemical changes in the capillaries; were attended by a reduction of temperature, and loss of muscular and nervous force, and aberration of the actions of the sympathetic and cerebro-spinal nervous systems. These disturbances of the chemical changes, and physi-

cal, muscular and nervous forces, were reflected in the urine. The appearance and chemical constitution of the urine, were strikingly different from the urine of those cases of intermittent, and remittent fever, where the action of the poison is attended by an excitement of the general and capillary circulation, and of the respiration, and corresponding rapid chemical changes, and high temperature. In those cases of malarial fever, where there is a rapid full pulse—moderately accelerated respiration—rapid introduction and distribution of oxygen and corresponding high temperature—the urine is invariably high colored, concentrated, and rich in solid matters. If we examine the analyses of the urine of those cases of intermittent and remittent fever, which I have recorded in previous numbers of this journal, and at the same time, bear in mind, the fact, that the urine was excreted during the summer season, and during starvation, it is evident that during the febrile excitement, the urea is greatly increased. When the febrile excitement (rapid distribution of oxygen, and rapid chemical change, and high temperature) subsides, the urea and other solid constituents of the urine decrease. After the establishment of convalescence, when the patient is able to take food freely, the solid constituents of the urine again rise, notwithstanding that the temperature is the same, or a few degrees above that of the intermission. The urea during convalescence, is probably derived partly from the food and partly from the metamorphoses of the tissues. In this case, on the other hand, the arrest of the circulation and chemical changes of the capillaries and the reduction of temperature, was attended by a complete alteration of the physical and chemical constitution of the products resulting from the metamorphoses of the blood, organs and tissues. The urea and uric acid were absent, the acid of the urine was greatly increased and the physical properties of the urine altered.

Whether the disappearance of the urea and uric acid resulted from the arrest of the metamorphoses of the muscular tissue, or of the blood corpuscles and nitrogenized elements of the blood; or from the disturbance of the normal chemical changes, by the introduction of the malarial poison, amongst the substances undergoing chemical change; or from the primary action of the malarial poison upon the sympathetic and cerebro-spinal nervous systems, and the perversion of the chemical changes of the organized elements, by the consequent aberrated nervous action; cannot be definitely answered in the present state of chemical, physical, physiological and pathological science, because the fundamental facts are wanting. It has not as yet been definitely settled, whether urea and uric acid* results from the metamor-

* The following observations throw some light upon the origin of uric acid. I kept a large Indigo snake (*coluber couperi*) in a cold dry room, during the winter

phoses of the blood corpuscles, or of the other nitrogenized constituents of the blood, or of the muscular tissue; or from all these sources. The chemical, physical, physiological and pathological properties and relations of the malarial poison, are unknown. What relations, chemical, physical, physiological and pathological, do the metamorphoses of the organized bodies which result in the formation of urea and uric acid, and of the extractive and coloring matters, bear to the metamorphoses induced by the malarial poison? It is impossible to give any answer to this important question, which lies at the foundation of the solution of the problem. Neither would the answer of this important fundamental question, clear up the difficulty, for we have here, complicated phenomena and numerous complicated actions and reactions. So complicated and involved are the phenomena that the solution of one necessarily demands the solution of all.

Such questions as these demand an answer.

What is the chemical, physical, physiological and pathological relations of the malarial poison to the sympathetic and cerebro-spinal nervous systems?

What is the effect of derangement of the *sympathetic nervous system* upon secretion and excretion, in fact, upon all the chemical changes of the elements of the human organism?

season, without food and drink. This serpent remained in a partially torpid state for three months. He was never entirely without the power of motion, and would, when aroused, show considerable power. At the end of this time, the serpent died. When the heart was exposed after death, its surface was covered with a chalky, granular substance, which was demonstrated both by microscopical and chemical analysis, to be the urate of ammonia. The external surface of the aorta, and its largest branches, were in like manner covered with the urate of ammonia. When the substance of the heart was cut, numerous particles of the urate of ammonia were found along the course of the blood-vessels and amongst the muscular fibres. Numerous particles of the urate of ammonia were also discovered amongst the fibres of the muscular coat of the aorta and its largest branches. When a portion of the muscle of the heart or of the muscular coat of the aorta was treated with acetic or hydrochloric acid under the microscope, thousands of small lozenge shape crystals of uric acid were discovered lying around the muscular fibrillæ. The urate of ammonia was deposited in no other organ or tissue except the heart and the aorta and its largest branches. The following appears to be the explanation of this singular phenomenon:

The heart was the only portion of the muscular system in continual action during the season of hybernation. Muscular force is developed by chemical change. The heart therefore was the only portion of the muscular system undergoing chemical change. The blood was concentrated, deficient in water. There was not sufficient water to dissolve the urate of ammonia, resulting from the chemical changes of the blood and muscles of the heart, by which the muscular force was developed. The urate of ammonia, consequently remained just where it was formed. This observation not only points to the origin of uric acid and ammonia in the animal economy, but also demonstrates that the muscular force is developed during the chemical changes of the elements of the blood and muscles. If these conclusions be legitimate, true and universal, it follows as a necessary consequence that any alteration in amount, or kind, of the chemical changes of the blood and muscular tissue must be attended by corresponding alterations in the amount and kind of the products resulting from those chemical changes.

Will the derangement of the secretions and excretions differ with different poisons, when the actions of those poisons are limited, simply to the *sympathetic nervous system*?

What is the effect of derangement of the *sympathetic nervous system* upon the *cerebro-spinal nervous system*?

Can the *sympathetic nervous system* induce alterations in the actions of the organs and tissues, in the secretions and excretions, independent entirely of any direct action, but by communicating or reflecting its aberrated action to the *cerebro-spinal nervous system*?

What is the effect of derangement of the *cerebro-spinal nervous system*, upon secretion and excretion, in fact, upon all the chemical changes of the elements of the human organism?

Will the derangements of the secretions and excretions differ with different poisons, when the actions of those poisons are limited simply to the *cerebro-spinal nervous system*?

What is the effect of derangement of the *cerebro-spinal nervous system*, upon the *sympathetic nervous system*?

Can the *cerebro-spinal nervous system* induce alterations in the actions of the organs and tissues, in the secretions and excretions, independent entirely of any direct action, but by communicating or reflecting its aberrated action to the *sympathetic nervous system*?

Would the phenomena of nervous and muscular action and of secretion and excretion vary, if the action of the poison or poisons were primarily upon the blood, rendering it unsuited to the healthy action of the *cerebro-spinal* and *sympathetic nervous systems* and of the muscular system—rendering it unsuitable for the formation of the secretions and excretions?

Notwithstanding the absence of the facts necessary for the solution of these complicated phenomena and problems; still the present observation, that arrest of capillary circulation and chemical change due to the action of the malarial poison, was attended by a reduction of the temperature, aberrated muscular and nervous action, and a marked alteration of the properties of the urine; is of great interest, in its bearing upon the treatment of congestive fever.

3. In the treatment of that form of malarial fever called congestive fever, those remedies should be employed, which excite the general and capillary circulation—promote the introduction and distribution of oxygen—increase the chemical changes—and excite the development of the muscular and nervous forces. Sulphate of quinia and diffusible stimulants, brandy and carbonate of ammonia, should be freely and promptly administered and sinapisms freely applied. Bottles of hot water, or better still, the hot water bath, should be used to impart heat and stimulate the capillary circulation, and relieve the engorgement of the large

organs. Brandy and red pepper may be applied to the surface with advantage. The sulphate of quinia may be administered in doses of 10 to 30 grains, every one, two or three hours, according to the urgency of the symptoms, up to 60 or 100 grains during the 24 hours. The best method of administering the sulphate of quinia is dissolved in a weak solution of citric acids or in lemon juice. It is perfectly soluble in this, and is much more readily absorbed, when in this soluble form. If the stomach rejects the sulphate of quinia, it should be administered in solution with starch, by the rectum. The stimulants will in many cases be the means of prolonging life until the sulphate of quinia can be absorbed and act. Whilst therefore the stimulants do not cure the disease, they often preserve life, by supporting the patient until the sulphate of quinia can act.

The carbonate of ammonia is peculiarly valuable in that form of malarial fever, where there is a rapid, feeble pulse, and corresponding rapid, feeble action of the heart. The observations which I have recorded in the previous numbers of this journal, prove that heart clots are almost always formed previously to death from malarial fever. It is probable that cases often occur where the sudden and distressing symptoms are due, in a great measure, to the formation of these heart clots during life. The feeble action of the heart, and the sluggish circulation of the blood are very favorable to the formation of these heart clots. The researches of Benjamin Ward Richardson* have established the fact, that the fibrin of the blood is held in solution in the blood-vessels by ammonia. The free administration of the carbonate of ammonia, then, in congestive fever, would fulfil two indications. 1st. Stimulation; 2d, Prevention of the formation of fibrinous clots in the heart and large blood-vessels.

4. The failure of this mode of treatment to prevent a fatal termination in this case, was due to several causes. The disease had been allowed to progress, without any opposition, for at least ten days before this plan of treatment was instituted. During this time, such profound alterations of the blood, spleen and liver, had taken place, and the chemical changes so perverted, and the correlation of the physical, vital, nervous and muscular forces, so disturbed, that no plan of treatment, however vigorous, however appropriate, could arrest the progress of the disease.

The symptoms were, without doubt, aggravated by the cirrlosed condition of the liver. The alterations of the color of the blood and of the secretions of the liver in malarial fever, point to profound alterations. The cirrlosed condition of the liver would necessarily increase these morbid effects. The cirrlosed condition of the liver, also points to the former intemperate

* The cause of the coagulation of the blood, by Benjamin Ward Richardson, M. D., London, 1858.

habits of the patient, and the effects of these upon the constitution, no doubt, influenced materially the course of the disease. As far as my observations upon malarial fever extends, I can assert that this disease most frequently proves fatal in those who have been addicted to the intemperate use of ardent spirits, and especially in those, in whom a cirrlosed condition of the liver, has been induced by the free use of ardent spirits. This statement is worthy of the attentive examination and consideration of the profession.

It is probable that the fibrinous clots found in the heart were formed some time before death, and if they did not determine, they at least hastened the fatal termination.

5. In this case, the marked reduction of the temperature of the trunk and extremities, was unattended by the shivering and sensations of cold, characteristic of the chill of intermittent and remittent fever. The observations which I have recorded, in previous numbers of this journal* have established, that in the chill of intermittent and remittent fevers, the temperature of the trunk is actually elevated several degrees above the normal standard, whilst the temperature of the extremities is depressed many degrees below the normal standard. In this state of things, we find a feeble pulse; feeble circulation of the blood in the capillaries of the extremities; diminished chemical action in the capillaries of the extremities; accumulation of blood in the large organs of the trunk; and increased chemical change in the blood and large organs of the trunk. This state of things is attended by shivering of the muscles, and a sensation of cold, just as a similar reduction of the temperature of the extremities in cold weather, would be attended by shivering of the muscles, and a sensation of cold. On the other hand, in that form of malarial fever, called *congestive fever*, where the temperature of both the trunk and extremities is depressed, the patient often complains of no sensation of cold, and in some instances, even says, that he feels perfectly well, and there is no shivering of the muscles. Here we find a feeble, general and capillary circulation, and an arrest and perversion of chemical action, both in the trunk and in the extremities.

Whence this difference?

Without attempting to decide dogmatically upon the solution of these complicated phenomena, we would simply state, that in congestive fever, the chemical changes in all parts of the body, are so diminished and perverted, and the correlation of the forces so disturbed, that the muscular system ceases to indicate by shivering and aberrated action, and the nervous system ceases to indicate by the sensation of cold, the depression of tempera-

* Cases I to VIII, June number, 1848, pp. 377-396.

ture, consequent upon the arrest of capillary circulation and chemical change. As muscular and nervous force, and even sensation, depend upon chemical change, it is but reasonable to suppose, that a marked perversion and diminution of chemical change should be attended by an arrest of muscular and nervous action, and even of sensation. In congestive fever, whether from peculiarities of constitution, or from the overwhelming amount of the poison introduced, those chemical changes are not excited, which result in the breaking up and removal of the malarial poison. The febrile excitement following the chill of intermittent and remittent fever, appears to be due to the equalization of the general and capillary circulations, and to the distribution through the blood-vessels and capillaries of all parts of the body, of the active chemical changes, and high temperature, which during the chill were confined to the trunk. It is highly probable, that during the febrile excitement, the malarial poison is drawn into the round of chemical changes, and so altered, that its action is for a time suspended. Hence the intermission or remission.

The fever then is a favorable symptom, and the want of fever, a most unfavorable symptom.

The manifest duty of the physician in congestive fever, (if these views which have been suggested by the results of actual observation and experiment, be correct,) is to administer those remedies which will excite the general and capillary circulations—excite chemical change—excite fever—and destroy, or counteract, or paralyze the action, or eliminate the malarial poison.

If these views be true, the paroxysms of malarial fever, are due to the alterations and partial destruction of the poison, during the active chemical changes of the febrile excitement. To the question, why should the blood be accumulated in the large blood-vessels, and capillaries of the organs of the trunk, during the chill, I can, in the present state of physiological and pathological science, give no satisfactory answer.

CASE LII. Irish seaman, aged 24; light hair, light blue eyes, fair complexion; height 5 feet 7 inches—stout, well built; weight 150 lbs.

October 12th, 1857, 12 o'clock M. Entered the hospital two hours ago. Now, he is out of his head and can give no history of his case. A companion states that he has been watching at night on board a brig, lying in the river, below the ship-yard, along the low marshy shore, and that he was taken sick with chill and fever one week ago, but did not, until two nights ago, discontinue watching at night. He is said to have used ardent spirits freely. Pulse 137, rapid and feeble; respiration 32; skin hot and dry. Tip of tongue clean and of a bright red color—

the remaining portion of the tongue is coated with yellow fur. The tongue is dry and harsh, to the touch, and feels, when the fingers are passed over it, like sand-paper. The patient mutters to himself, continually, half-formed sentences and imperfect words. Continues to mutter in the same incoherent manner, notwithstanding strenuous efforts to arouse and attract his attention. It is with the greatest difficulty he can be made to open his mouth for the inspection of his tongue.

About one hour ago his extremities felt cooler, and his pulse was more feeble than it is now. Mustards were applied to the extremities—they increased the temperature and rendered the pulse somewhat fuller, and aroused his intellect for a moment, but he again relapsed into the state of delirium.

R. Cut-cups to the temples and back of neck. Apply cloths, wet with ice water, around the head.

R. Calomel, grs. xij.; follow with castor oil in four hours.

R. Mustards to the epigastrium and extremities.

R. Brandy, infusion of Virginia snake-root, sulph. of quinia, and spirit of Mindererus.

8 o'clock P. M. The mustards and free use of stimulants failed to arouse him. He is in a profound stupor, from which it is impossible to arouse him. Pulse 124, full and strong. His pulse has increased in force and volume under the action of the stimulants. Skin hot and dry. Tongue presents the same dry and rough appearance.

R. Apply blisters to back of neck and over epigastric region.

Oct. 13th, 11 o'clock A. M. The cut-cups to the head, the sinapisms upon the extremities, the blisters upon the back of the neck and epigastric region, and the diffusible stimulants and the cathartic, have all failed to arouse this patient, and he now lies in a comatose state, and passes his urine and feces in the bed. The nurse states that, during the night he was much more restless than at the present time, and it was necessary to give constant attention that he did not fall out of the bed. The medicine has operated freely, and the blister has drawn well. The serum from the blistered surface is of a golden color.

Respiration 30, stertorous. The patient lies in a stupor, with his eyes shut and mouth open, and emits a suppressed groan, or whine, at every breath—his appearance, and the sounds which he emits, are similar to those of the patient described in Case XL., page 78*. These groans appear to be entirely involuntary, and depend upon the state of the organ of voice and the mode in which the air passes through it.

Pulse 144, feeble. The sounds of the heart cannot be distinguished—they are both united into one, and the heart makes a

* Southern Medical and Surgical Journal, February number, 1859.

short, quick, thumping sound. The number of the thumps of the heart corresponds to the pulse—144 to the minute. Temperature of atmosphere, 77° F.; temp. of hand, 103°5; temp. in axilla, 104°5. Skin hot and dry; teeth coated with sordes. Cannot get a sight of his tongue, as his teeth are tightly closed, and he is entirely insensible. I have just applied mustards to his extremities—they do not arouse him—and after remaining on one hour they scarcely redden the surface.

I have delayed the administration of the sulphate of quinia up to the present time, with the hope that the cut-cups and cold applications to the head, and blisters and sinapisms, and stimulants, would arouse the patient from the state of profound stupor.

Without having any hopes of his recovery, we will administer the sulphate of quinia, as an experiment.

R. Sulphate of quinia, grs. v. every three hours, up to grs. xxx. Continue diffusible stimulants, brandy and spirit of Mindererus.

9 o'clock P.M. Profound coma. Respiration 32, spasmodic. Pulse is gone. Heart merely flutters. Head and trunk warm—extremities cold. Have again applied mustards to the extremities and administered diffusible stimulants, but they do not produce the slightest effect, and he will die in the course of one hour.

The patient died half an hour after this observation.

(15.) AUTOPSY TWELVE HOURS AFTER DEATH.

Body in good condition, apparently not at all reduced; limbs full and round, muscular, well developed; complexion very fair—there appeared to be a slight tinge of yellow. Skin of the dependent portions of the body slightly darker than that of the superior portions of the body. Rigor mortis remarkably strong—it required all the force that I could exert to straighten his arms, and they would return back to the bent position with considerable force. After the right arm had been first straightened out at right angles to the body, and while I was standing between the arm and the body, engaged in opening his abdomen and thorax, I felt the pressure of a hand and arm upon my back. This was the hand of the dead man, which had slowly returned to its former position by the contraction of the muscles.

HEAD. Dura-mater, normal in appearance. The longitudinal sinus of the dura-mater contained an elongated, flattened, ribband-like, fibrinous clot, which was free from colored corpuscles, of a light yellow color. This, without doubt, was formed before death. Arachnoid membrane, opalescent, pearl-colored in many places. Blood-vessels of pia-mater filled with blood. Substance of brain appeared to be normal in color and texture, as far as an examination with the naked eye extended—it was perhaps a little softer than usual, but this may have been due

to post-mortem changes, and at any rate would not account for the symptoms during life. Ventricles of the brain contained no serum. Blood-vessels of medulla-oblongata and superior portion of spinal cord, not congested with blood.

CHEST. Heart.—Exterior surface of the heart adherent at all points to the pericardium. There was no free space between the heart and the pericardium—hence no fluid lubricated the heart. Muscles of the heart paler than usual.

The right auricle and ventricle contained a yellow clot, free from colored blood-corpuscles, which was attached to the columnæ carneæ and cordæ tendineæ of the right ventricle, and extended through the auriculo-ventricular opening into the auricle. This clot sent off a large branch into the pulmonary artery. This branch of the yellow fibrinous clot, which almost completely filled up the pulmonary artery, sub-divided and sent branches down the right and left pulmonary arteries, and these branches again divided and sub-divided into numerous branches, the smallest of which were not larger than fine threads. These fibrinous threads passed deep into the blood-vessels of the lungs, probably almost to the commencement of the capillaries.

The left ventricle contained a similar yellow fibrinous formation, almost entirely free from colored blood-corpuscles, which was attached at one extremity to the columnæ carneæ and chordæ tendineæ, and extending through the auriculo-ventricular opening into the auricle, sub-divided into branches, which passed up the pulmonary veins, and sub-divided into numerous smaller branches which occupied the smaller divisions of the pulmonary veins. These fibrinous bodies of the pulmonary veins and arteries were very elastic—with care they could be drawn out of the smaller branches of the pulmonary veins and arteries, four and six inches in length, without breaking, notwithstanding that the smallest branches were very delicate. The aorta contained a similar clot. All these clots were of a bright yellow color, almost entirely free from colored blood-corpuscles, and presented almost an organized appearance, and were, without doubt, formed long before death.

It is worthy of note, that the heart and arteries and pulmonary veins, contained little or no blood. The large venous trunks were distended with partially coagulated black blood. When the blood from the large venous trunks was exposed to the atmosphere, it assumed slowly and imperfectly the arterial hue. The blood appeared to have been collected in the capillaries and veins. If the chemical changes between the blood-corpuscles and liquor sanguinis, and between the blood-corpuscles and the capillaries, and the structures and fluids surrounding the capillaries, be arrested, as a necessary consequence the circula-

tion of the colored corpuscles through the capillaries must be greatly interfered with.

Lungs—Normal in appearance and structure—lower (dependent) portions congested with blood. This was due to the action of gravitation. The trachea and bronchial tubes and air cells contained much froth.

ABDOMINAL CAVITY. *Liver*.—The liver presented a much darker color, upon its exterior, than normal, but not the dark slate color of cases of malarial fever of longer standing. When incisions were made into the liver the cut surface was different in appearance from that of the healthy liver, and approached the bronze color of malarial fever. The color of the cut surface, however, was several shades lighter than that of malarial fever of longer standing. On the under surface of the right lobe, were several spots, of the dark slate color peculiar to malarial fever. When incisions were made into the liver, through these spots, the substance of the liver for one-eighth of an inch, presented the regular bronze color of malarial fever. The liver cells presented the usual appearance. In some cases they appeared to contain more oil than normal. The tissues around the secretory cells contained numerous small and large oil globules. The presence of this oil may have been due to the action of the alcoholic stimulants.

The liver contained animal starch, without a trace of grape sugar. The liver was carefully tested for grape sugar, as soon as it could be removed from the body. The weather was cool, and the substance of the liver had not undergone decomposition to the slightest extent; and the time which had elapsed since death, was not of sufficient duration to account for the disappearance of the grape sugar. Weight of liver, grains 29416—equals ozs. $75\frac{1}{4}$, equals lbs. 4, ozs. $3\frac{1}{4}$.

Spleen, enlarged, softened, disorganized, and of a dark slate malarial color—when pressed gently between the fingers, the trabeculæ could be felt giving way. The cut surface was of a dark, purplish-brown color—from the cut surface, issued a dark, purplish-brown mud. After eight hours exposure to the atmosphere, small streaks, inclining to an arterial hue, appeared upon the cut surface of the spleen, and probably were due to the change in the blood which issued from the divided vessels. These streaks of mud, inclining to the arterial hue, occupied but an inappreciable fraction of the whole surface. When the dark mud (effused blood) was examined under the microscope, it was found to consist of colored and colorless corpuscles and dark granules. Some of the colored corpuscles were swollen and altered in shape—the alteration was by no means universal, or remarkably great. When the splenic mud was spread upon a glass slide, and treated with tincture of iodine, and

viewed under the microscope, a few irregular blue particles appeared, resembling animal starch. Weight of spleen, grs. 7562, equals ozs. $17\frac{1}{2}$, equals lbs. 1, ozs. $1\frac{1}{2}$.

Alimentary and Intestinal Canal.—Exterior surface of stomach and intestines looked pale. Blood-vessels of omentum and mesentery were filled with black blood. The stomach contained a yellow, mucus-like fluid. The mucous membrane of the stomach was dyed yellow by the bile. With the exception of this discoloration, the mucous membrane of the stomach appeared to be normal. There were no marks of inflammation.

The small intestines contained large quantities of yellow mucoid matter, mixed with soft fecal matters. When carefully and completely washed under a gentle stream of cold water, the free edges of all the valvulæ conniventes, presented a bright red and bistre color, which diminished in intensity towards the attached portion. The whole surface of the mucous membrane of the small and large intestines, was of a darker color and indicated much more congestion than usual. I do not consider the congestion of the blood-vessels of the mucous membrane, as a pathological alteration, due to either the primary or secondary effects of the malarial poison, because, at the time of his death, the patient was under the action of a cathartic. Cathartics, as far as my experiments upon animals have extended, produce engorgements of the vessels of the mucous membrane of the intestines. Glands of Peyer, not enlarged or inflamed, normal in size and appearance. Solitary glands did not attract attention.

KIDNEYS.—This subject had but one kidney—this corresponded to the right kidney. The inferior surface of the kidney presented a dark slate-colored spot, two inches in diameter—the color of the spot resembled, in all respects, the slate color of the malarial liver. When an incision was made into the substance of the kidney through this slate colored spot, the cut surface presented a bronze color to the depth of about one-sixth of an inch. The bronze color gradually shaded into the normal color of the kidney. With the exception of this slate colored spot, the color of the kidney was normal.

The pelvis of the kidney and superior portion of the ureter, contained a few drops of a fluid which, to the naked eye, resembled pus. Bladder contracted—contained no urine.

CONCLUSIONS.

The formation of the heart clots, and the blocking up of the pulmonary arteries and veins, with tough elastic fibrinous bodies, demand a careful consideration. Was the formation of these clots, before death, due to the absence of the volatile alkali of the blood? or to the abnormal formation of fibrin in the blood? or to disturbances in the nutritive and excretory processes?

or to the impeded and sluggish circulation? It may have been due to one or all of these causes—it was certainly accelerated by the impeded and sluggish circulation. The acetate of ammonia (spirit of Mindererus) was administered freely in this case—not however with any design of preventing the formation of heart clots, but rather for its refrigerant and diaphoretic effects. We cannot say, that the administration of this remedy had no effect upon the formation of the fibrous bodies—because they may have been formed previous to the admission of the patient into the hospital. We believe the carbonate of ammonia, to be far more efficacious in congestive fever than the acetate of ammonia, on account of its general stimulant influence on the circulation and organic nervous system, and its power to increase the secretions. As far as my observations extend, the formation of heart clots, during life, is very common in malarial fever. In the fifteen postmortem examinations which I have recorded in the previous numbers of this journal* heart clots were found in ten cases; and of the remaining five cases, one was a case of typhoid fever, combined with malarial fever, another was a case of malarial fever of long standing, where the patient died of exhaustion, and in the remaining three, no special examination for heart clots was instituted. If the formation of fibrous bodies in the heart and blood-vessels, be common in malarial fever; and if the statement of Dr. Benjamin Ward Richardson of London, that the fibrin is held in solution in the liquor sanguinis in the living blood-vessels, by ammonia, be true; and if the statement which I have endeavored to substantiate by numerous cases recorded in the previous numbers of this journal† that the action of the malarial poison is depressing, rather than inflammatory, be true; then *carbonate of ammonia* should be administered freely in malarial fever. It should be administered because it excites the general and capillary circulation—excites the chemical changes in the capillaries necessary for the development of the muscular and nervous forces—arouses the sympathetic and cerebro-spinal nervous systems—promotes secretion and excretion—and furnishes the volatile alkali to the blood, which holds the fibrin in solution.

* Case xxiii, August number, 1858, p. 529. Case xxix, October, 1858, p. 662. Case xxx, October, 1858, p. 669. Case xxxi, October, 1858, p. 674. Case xxxii, November, 1858, p. 726. Case xxxiii, November, 1858, p. 728. Case xxxv, November, 1858, p. 737. Case xxxvi, November, 1858, p. 740. Case xxxvii, November, 1858, p. 743. Cases xxxviii, xxxix, xl and xli, February, 1859.

† Case i., June, 1858, pp. 382–384. Case ix., July, 1858, p. 438. Case x., p. 441. Case xxxiii., September, 1858, pp. 589–592. Case xxviii., October, 1858, p. 655. Case xxix., p. 664. Case xxx., p. 667. Case xxxv., November, 1858, p. 732. Case xxxviii., February, 1859, pp. 80–81. Case xxxix., p. 86. Case xl., p. 91. Case xli., p. 93. Case xlii., p. 96–100. Case xlvii., March, 1859, pp. 147, 148, 150, 151, 153, 155. Case xlviii., pp. 160–163. Case l., pp. 165, 166, 168. Cases li., lii., liii., April, 1859.

It should be borne in mind, that we do not for one moment advocate the carbonate of ammonia, as a substitute for sulphate of quinia. The carbonate of ammonia does not cure the disease. The carbonate of ammonia, merely arouses the system, prevents a distressing and fatal accident and prolongs life until the sulphate of quinia can act. Administer then the sulphate of quinia in full and vigorous doses, in conjunction with the carbonate of ammonia.

With the exception of the heart clots, we do not discover any pathological changes of the organs, which of themselves, would account for either the symptoms or death of the patient. As far as an examination with the naked eye extended, we did not find in the brain, any structural alterations, sufficient to account for the symptoms of delirium and coma. We should not, however, in the present state of chemical and physiological and pathological science, decide dogmatically a question of such importance; for we are wholly ignorant of the chemical, physiological and pathological relations of the malarial poison to the nervous elements. Notwithstanding that we have no investigations bearing upon these questions—notwithstanding that I was anxious to enter upon this untrodden field; I was compelled on account of the difficulty of the investigation, and on account of the complete occupation of time, and entire employment and exhaustion of health and strength, in the researches, imperfect as they are, now recorded; and on account of the imperfections of the methods of physico-chemical, physico-physiological, chemico-physiological, physico-pathological, and chemico-pathological research—to abandon, for the present at least, this most important investigation.

It is evident that a thorough knowledge of the nature and treatment of malarial fever, demands amongst many other things, a thorough knowledge, not only of the appearance and chemical constitution of the structures of the cerebro-spinal and sympathetic nervous systems, but also a thorough knowledge of the physical, chemical, and pathological alterations of these structures when acted on by morbid agents. Whatever was the alteration or alterations of the nervous elements in this case—it is evident that they could not be reached by the most energetic and vigorous treatment. Nothing appeared to arouse the action of the brain, notwithstanding that there was no congestion and no inflammation of this organ. We are unable to determine what effect the previous habits of the patient had, upon the course of the disease.

3. We do not think that the condition of the spleen was sufficient to cause death*—because we have recorded in previous

* Case xxx., October, 1858, pp. 667–671. Case xxxi., pp. 671–675. Case xxxii., November, 1858, pp. 723–727.

numbers of this journal, cases where sudden death occurred from other diseases during convalescence from malarial fever, in which the spleen was much more engorged, and apparently in a worse condition. The same remark applies to the alterations of the liver—they do not appear to have been sufficient to cause death.

4. The stomach and intestinal canal presented no pathological alterations. The slate-colored spot upon the kidney was curious, especially in its bearing upon a similar change in the color of the liver, but it was not sufficient to account for even one of the symptoms.

5. If then, the cause of death was not found in the pathological alterations of the organs and tissues, what destroyed life? In the present state of medical science, we can offer suppositions, but we can give no decided answer. How difficult would it be to prove or disprove, that the malarial poison produced death, by its direct action upon the nervous system, in a manner analogous to the action of some of the violent alkaloid and metallic poisons? We know that some of these poisons will produce almost instantaneous death, without producing a single pathological alteration which can be recognized by the most delicate chemical tests, or by the most rigid microscopical examination. We know that some substances, as chloroform, will produce sudden death in some cases, where there is no assignable cause either in the structures and forces of the patient, or in the pathological alterations produced. This peculiar action is said to be due to the idiosyncrasy of the patient. May not the fatal action of the malarial poison be due in some cases to the idiosyncrasy of the patient? Has any one ever determined upon what an idiosyncrasy depends? How difficult would it be to prove or disprove, that the malarial poison acts antagonistically to the vital principle, which directs the physical forces developed during the unwinding of the spring, wound up by the forces of the sun, so that the form, and individuality and definite constitution of every organ and tissue, is preserved amidst unceasing changes.

CASE LIII.—American seaman, age 25; height 5 feet 9 inches—weight, 150 lbs.; dark complexion, dark brown hair, brown eyes.

October 19th, 8 o'clock P.M., 1857. This patient entered the hospital three hours ago, at 5 o'clock, P. M., in an almost insensible condition. Now he is aroused with great difficulty, and answers incoherently. Extremities cold. Pulse 80, feeble. Head and trunk cooler than normal. Tongue, by the gas-light, appears clean, soft, and normal in color.

R. Cut-cups to each temple and back of neck.

R. Mustards to extremities, and over epigastric region.

R. Sulphate of quinia, grs. v.; camphor, grs. ij. Mix, and administer every three hours, until fifty grains of the sulphate of quinia have been taken.

R. Spirit of Mindererus, brandy, and infusion of snake-root, f ʒss. of each, alternately, every half hour.

October 20th, 9 o'clock A. M. Lies in a profound coma. This came on a short time after the first observation yesterday evening. The cut-cups aroused him partially for a few moments, but he soon relapsed. Mustards have been applied to the extremities and epigastric region, three times during the night—they failed to rouse the brain—they excited the capillary circulation and induced an elevation of temperature, but did not restore reason. The stimulants also failed to arouse the intellect. Whenever the mustards were removed, and the stimulants withheld, his surface became cool, and the pulse diminished in volume. It is evident then, that the mustards and stimulants excite the general and capillary circulation, and induce an elevation of temperature, but they do not arrest the disease. During the night, has passed his urine and feces in bed.

Pulse 140, full. The sounds of the heart are not distinct, they cannot be distinguished, but sound to the ear like one sound. The beating of the heart sounds stronger, even than in health. The sounds of the heart correspond in frequency to the beat of the pulse, 140 to the minute. Respiration 40, spasmodic, Temperature of Atmosphere, 70°F.; temp. of hand 104°; temp. in axilla, 104°·5. Great tenderness of epigastrium—whilst neither shaking nor loud talking will arouse him, pressure upon the epigastrium, causes him to emit a short cry. The epigastrium and region of the liver, feels to the hand, warmer than the head or any other part of the body. Complexion very sallow. I administered grs. xxx. of sulphate of quinia, in f ʒij. of brandy. It was with great difficulty that the spoon was forced between his clenched teeth. The dose had not been swallowed more than a few moments, before it was ejected violently, apparently without any effort or consciousness on the part of the patient. This dose was again repeated, and his trunk and extremities covered with mustards, and bottles of hot water applied to the feet, without producing the slightest effect. *This patient died one hour and a half after these observations.*

(16). AUTOPSY TWENTY-FOUR HOURS AFTER DEATH.

Body not emaciated—apparently in full flesh—has the marks of a large ulcer over the superior portion of the sternum. Skin of the dependent parts of the body of a purplish hue. The discoloration of the skin commences about the middle of the body, and gradually increases downwards, until the most dependent portions are of a deep purple color.

HEAD.—When the skull-cap was removed, much blood flowed out. Arachnoid membrane opalescent, in a few spots. Blood-vessels of pia-mater, filled with blood. Bloody serum was effused between the archnoid and pia-mater. Blood-vessels at the base of the brain and surrounding the medulla oblongata, and superior portion of the spinal cord, congested with blood. Blood was effused upon the base of the brain. This blood was fluid, and contained no coagula. The substance of the brain was normal in consistence and appearance.

CHEST.—*Heart* normal—right auricle and ventricle contained a small clot; left heart, empty.

Lungs, normal—dependent portions congested with blood—blood-vessels of superior portions almost entirely free of blood.

ABDOMEN.—*Liver*. A large portion of the surface of the liver presented the healthy spanish-brown color, and when cut, the substance presented the usual healthy color. Other portions however, presented a mottled appearance of spanish-brown and dark purple, and the blood-vessels of these parts appeared to be engorged with blood. The right lobe of the liver had upon its under surface, a spot about two inches in diameter, of a dark slate (malarial) color. When an incision was made through this portion of the liver, it presented for the depth of about $\frac{1}{4}$ th of an inch, the true bronzed color. Numerous incisions were made into the liver, in all directions, so as to expose its substance fully to view; portions were found, approaching in color the bronze hue of the malarial fever liver; the great mass of the liver, however, resembled more nearly that of a healthy liver engorged with blood. Portions from different parts of the liver were examined under the microscope. The liver cells, from the slate colored and bronzed portions, did not differ in appearance under the microscope, from those of the normal colored, or from those of the mottled portions. The colored corpuscles appeared to be more altered in form in the bronzed portions than in the normal colored portions. The alterations, however, even in the bronzed portions, were small and by no means universal, but confined comparatively to a few, and after all, the difference may have been imaginary. The determination of comparative alterations of this kind, is not so easy, as at first sight appears. Did not discover any of those dark granules in the bronze portion, which have been said to impart the peculiar color of the liver.* From the cut surface of the liver, much black blood issued, which assumed, upon exposure to the atmosphere, the arterial hue. The liver cells did not appear to be altered in any manner.

Gall bladder, filled with bile. *Specific gravity of bile*, 1042.5. Viewed in mass, the bile was of a brownish black color, with greenish reflexions, and resembled, upon a general view, a satu-

* A. Clark, M. D. Bãrtlett, on the Fevers of the United States, p. 370. This subject will be discussed more fully hereafter.

rated tincture of iodine. It resembled, and poured like molasses, being thick and ropy. Upon close inspection, the bile was found to contain numerous flakes, of a green color, which under the microscope were found to consist of the conglomerated cells of the mucous membrane of the gall-bladder. When spread out in thin layers, the bile presented a gamboge yellow color.

Pancreas, normal.

Spleen, slate colored, softened and enlarged—not as much softened and altered, however, as in cases of malarial fever of longer standing. The mud of the spleen was of a dark purplish hue, and appeared to be in transition, to the color and state of the mud of the spleens, of malarial fever of longer duration. After exposure for a few hours, to the oxygen of the atmosphere, a large portion of the mud of the spleen assumed a color, approaching the arterial hue; much brighter than the mud of the spleens, upon which malarial fever had exerted its full effects, and somewhat darker than the bright arterial hue, assumed by the splenic mud of healthy normal spleens. When the splenic mud was spread in thin layers upon a glass slide, the change of color was much more rapid. Under the microscope, the splenic mud appeared to consist almost entirely of colored corpuscles, many of which appeared swollen and altered in appearance. After careful examination, I was unable to find those conglomerations of black granules, resembling the black sediment of black vomit, which were discovered in other malarial spleens*.

Kidneys, normal. Bladder, contracted, contained no urine. Scrotum, red, and apparently scalded. This was due, most probably, to the acrid urine.

Alimentary and Intestinal Canal.—The mucous membrane of the stomach, presented two well defined portions—the mucous membrane of the lesser curvature of the stomach, was pale and normal in appearance—the mucous membrane of the greater curvature and pyloric extremity, and of the pylorus, was of a purplish color, and ecchymosed, in crimson spots. The blood-vessels of the greater curvature, and of the pylorus were congested with blood. Mucous membrane of the superior portion of the jejunum, congested with blood—valvulæ conniventes, especially at the edges, ecchymosed in spots of a purple and scarlet color. Mucous membrane of the lower portion of the ileum, greatly congested with blood. Peyer's glands somewhat enlarged, more distinct and elevated than usual, but pale and not congested and inflamed, as in typhoid fever. Solitary glands enlarged and distinct. Mucous membrane of colon, greatly congested with blood.

* Case xxiv., Autopsy 2, p. 663, October, 1858. Case xxxv., November, 1858, Autopsy 7, p. 738. Case xxxviii., Autopsy 10, February, 1859, p. 79. Case xxxix., Autopsy 11, p. 85.

CONCLUSIONS.

1. The slight alteration of the color of the liver—the change of the blood of the liver, to the arterial hue upon exposure to the atmosphere—the change of the splenic mud to the arterial hue—all prove that this patient had died very soon after the commencement of the malarial fever. As we have seen, the patient was unable to answer any inquiries with reference to the history of his case. So convinced was I, that this was a case of only one or two days standing, that I sought out the captain of the vessel to which this patient belonged, and made minute inquiries. The captain stated that this man was the cook on the vessel. One month ago, whilst the vessel was lying in the Santee river of South Carolina, this patient was taken with a fit; this was relieved in a few hours, and was not followed by fever, and the patient appeared to suffer no ill effects, and resumed his duties. Two weeks ago, the captain brought his vessel to Savannah. This patient has been sleeping on board the ship, at night, up to the time of his entrance into the hospital. He was well, active, and attentive to his duties, up to 5 o'clock P. M., October 18th, when he was suddenly seized with vomiting, cold extremities, complete prostration and delirium. He had cooked dinner this day, and was attending to his duties, at the time of this sudden attack. He had, however, “a singular look out of his eyes,” which attracted the attention of the captain, and led him to inquire, if he was well; the patient answered yes, and complained of nothing. Whilst sick on board the ship, he complained of no pain, and before the complete loss of reason, said, that he felt well. The next day, the 19th inst, he was sent to the hospital at 5 o'clock P. M. I saw him for the first time at 8 o'clock P. M. He died at 12 o'clock M., the next day. *This patient, then, died after forty-three hours sickness.*

2. The general and capillary circulation was easily aroused by stimulants; the temperature of the body, under the action of stimulants, was elevated above the normal standard, and there was a correlation between the temperature of the trunk and extremities; and the chemical changes appeared to be amply sufficient for the development of the muscular and nervous forces; and the liver and spleen had undergone, comparatively, but slight alterations. The most prominent apparent cause of death was the effusion of blood upon the base of the brain. The fit which occurred one month ago, points to a previous derangement of the cerebro-spinal system. Was the effusion of blood upon the brain the result of the action of the malarial poison alone, or the result of the action of the malarial poison upon the delicate structures of the brain already altered by previous disease? It is impossible to decide these questions positively; but all our observations upon malarial fever, would lead us to

adopt the latter supposition. We regard the action of the malarial poison as depressing, and not inflammatory. Cerebral disturbances in malarial fever, appear to be due, first, to the direct action of the malarial poison and of the altered blood upon the nervous structures—and secondly, to the stagnation and accumulation of blood in the capillaries and blood-vessels of the brain, due to the diminished action of the heart, arrest and perversion of chemical change in the blood of the capillaries, and loss of power in the capillaries themselves. If by previous disease, arising of itself, or induced by the intemperate use of ardent spirits, the capillaries and blood-vessels of the brain and its membranes, lose their tonicity, elasticity and coherency, the simple stagnation and accumulation of blood may be attended by a rupture of the altered vessels, without any inflammatory action. A strong confirmation of these views, is the fact, that the vigorous administration of the most active stimulants, conjoined with sulphate of quinia, is the most efficient mode of preventing, arresting and relieving, the coma and delirium of malarial fever. If the action of the poison was inflammatory, this would not be the case. The preceding case, shows that we may have symptoms of inflammation of the brain, in malarial fever, without a single pathological alteration after death, cognizable to the senses.

3. A comparison of the autopsy of this case with that of other cases, shows that in the first stages of malarial fever, the liver is first engorged with blood, and the slate and bronze color is not at first universal, but confined to definite portions. It is an interesting fact, that in the present case, the solitary glands were found enlarged, even at this early stage of the disease. The mucous membrane of the stomach and intestines presented marks of congestion, if not of inflammation. This condition of the mucous membrane is by no means characteristic of malarial fever, even when there is great tenderness upon pressure of the epigastrium. Tenderness here may be due rather to the state of the spleen and liver. The slate-colored spots upon the kidneys in cases xxxviii., Autopsy 10 and lii., Autopsy 15, are interesting in their bearing upon the peculiar color of the liver. The observation which we made upon previous cases is also true with regard to this, that the slate and bronze color of the liver is not due to the formation and distribution through the liver of peculiar dark colored granules.

4. Although the stimulants and sulphate of quinia did not cure the disease, still they aroused the capillary and general circulation and induced the chemical changes.

This case closes the report of cases, and in the succeeding numbers of this journal, we hope to generalize all the facts and phenomena thus far presented.

(To be continued.)

ARTICLE X.

A Case of Lithotomy. By D. W. HAMMOND, M.D., of Macon, Ga.

I was called on the 15th November, 1858, to visit a little boy, 2½ years of age, son of Mr. Blunt, in the immediate vicinity of Oglethorpe. The patient, from his earliest infancy up to that time, had suffered more or less from painful and difficult micturition. As he grew older, the symptoms became more intense and distressing. Dr. Oliver, my esteemed friend, under whose care he had been placed, diagnosed the case to be Calculus of the Bladder, which the introduction of the sound readily and unmistakably revealed.

On consultation with the medical friends present, the operation was at once decided upon. After securing the little sufferer in proper position, and other requisite appliances suitably arranged, the operation was completed in a few minutes by the lateral section—using Dr. Physick's gorget.

The calculus was readily engaged in a small lithotomy spoon or scoop, and extracted. Its shape, an oblate spheroid—the surface tuberculated with minute, sharp, and semi-transparent crystals, and weighing 9j.

Eleven days after the operation, I received the following letter from Dr. Oliver, under whose management he was confided :

“OGLETHORPE, Nov. 26th, 1858.

DR. HAMMOND:

Dear Sir—The child of Mr. Blunt is getting on well—has had no fever for five or six days. The urine is now passing free, per vias naturales, though not wholly through the urethra as yet, some still finding its way through the opening in the perineum. The wound is closing gradually. The little fellow is quite cheerful this morning, and has every prospect of a speedy recovery,* &c.

Yours truly,

T. P. OLIVER.”

The patient was not placed under chloroform, in consequence of his age, and other circumstances contra-indicating its administration. The child being so young, rather deterred me from the operation, and it would have been postponed but for the

* In a note, dated January 21st, 1859, Dr. Hammond informs us that the patient has entirely recovered—now running all about the house and yard.

increasing intensity of his sufferings for several months prior to the time I visited him. He was having "fits of the stone," frequently, as often as twice a week, causing violent straining and persistent tenesmus, the consequence of which was a troublesome diarrhoea, complicated with prolapsus ani, and ulceration of the neck of the bladder. These enervating consecutives, together with an exhausting catarrhus vesicæ, impelled me, without further delay, to resort to the "*ultimum et unicum remedium.*" I had been consulted about twelve months anterior to this time in regard to the propriety of performing the operation, and advised it to be deferred as long as possible, as I feared one so young might doubtless succumb to traumatic convulsions.—And I would here remark that, age has much to do with subjects afflicted with this terrible malady, especially where a resort is had to the knife.

From long practice and experience in such cases, I am of the opinion that the most favorable age for cutting for stone, is from *five to ten years*. Sir Astley Cooper, in speaking on this branch of the subject, says, "The age at which there is least danger is from *three to twenty*, for death is then a very rare occurrence." I never knew a case terminate fatally when operated upon between the ages of five and ten years. Including the little boy now under consideration with nine others, varying in age from five to ten years, upon whom I have operated, they all, without a single exception, have had speedy and satisfactory recoveries—the time occupied ranging usually from ten to fifteen days. Those farther advanced in life—say, from twenty-five to sixty—have, as a general rule, recovered more slowly and less perfectly. From these facts, the conclusion is irresistible, that those who are suffering from this ailment should be urged by every possible argument to submit to the only remedy as early as possible. Perhaps one less than two years of age would be too young, although many have been successfully operated upon, much younger. South says, "The earliest age at which I have known the operation for Stone performed, with success, was twelve months: in two instances, successfully, by Keate, at St. George's Hospital." John Hunter operated on a child eighteen months old, but the *result is not stated*. Civiale has collated many instances of infants affected with Stone—one of which was cut at ten weeks: *result not stated*.

On the other hand, although age, *cæteris paribus*, should not be a bar to the operation, yet the prognosis in such cases, as a general rule, is unfavorable for recovery. Mr. Cline, senior, operated successfully upon a patient eighty-two; Attenburrow, at a still more advanced age; and Astley Cooper upon one seventy-six, who lived ten years after. But these may be considered extreme cases, and exceptions to the rule laid down.

I had intended, before closing this article, to give my views in relation to the comparative merits of the gorget, and Lithotome Caché of Dupuytren; but to do the subject justice, would extend the essay to an unnecessary length. I must be permitted, however, to remark, that my decided preference is in favor of the gorget, as being the best and safest instrument that has yet been invented for dividing the prostate gland and neck of the bladder.

ARTICLE XI.

The Horse-Shoe Pessary in Retroversion of the Uterus of long standing. By WM. B. JONES, M. D., of Birdsville, Burke Co., Georgia.

MESSRS. EDITORS:

The history of the following case is given to the readers of your valuable Journal, for the interest it possesses in being a case of exceeding rare occurrence, and of its long existence, without producing that fatal termination we might anticipate from so serious an accident.

We can readily conceive how, under favorable circumstances, an impregnated uterus can become "topsy-turvy"; but the retroversion of an unimpregnated uterus in a female who had not borne children, is an accident of so improbable a nature, that some authors have doubted whether it could occur at all, unless from disease of the organ itself, or pressure from some neighboring diseased structure, or from congenital deformity. This case affords also another of the many melancholy instances (particularly) of female maladies, which, simple in themselves, when first happening, and easily removed when detected and treated by an intelligent medical practitioner; but, falling into

the hands of the ignorant pretenders of our art, entail suffering indescribable, and a life-long martyrdom upon the unfortunate patient.

On the 19th of June, I was called to see Mrs. H., in consultation with her attending physician. I was informed that she had been suffering about thirteen years with some uterine disorder, the exact nature of which was supposed not to have been ascertained—that now she was nearly bed-ridden, after withstanding the treatment of innumerable Doctors, and swallowing all the stuffs and nauseous compounds that ignorance and superstition could invent and impose, and the hopeful credulity of a suffering woman could endure—passing gradually from bad to worse, hope had well nigh fled, and life, otherwise desirable, had become almost an intolerable burden.

With her attending physician, I visited the patient, determined (if a careful examination would reveal the true nature of the malady) to have the satisfaction of discovering to herself and friends, of what she was suffering, if I could not extend relief, or promise a cure.

The Statement of the Patient.—That she had been suffering, more or less, for thirteen years; that she grew up to womanhood with scarcely a pain or ache; that her catamenia appeared at the usual period of life, and had regularly and healthily reappeared, up to the time she dates the commencement of her trouble. She married at nineteen years of age, and, with her husband, commenced soon after to keep public house. Priding herself upon her ladyship's strength and activity, she did much of the active duties of the house. One day, whilst her catamenia was upon her, in making up and replacing beds, she attempted to lift a heavy bedstead from its position. The effort caused sudden pain in the back, which, continuing, compelled her to take to her bed for several days. From that time, until now, she has never recovered from a continual distressing sensation of weight and pressure about the lower pelvic region, accompanied often with a difficulty at defecation, and a habitual costiveness. All these symptoms, much aggravated now during her menstrual periods—she is compelled to take her bed, and scarcely recovers from the suffering of one period, before another prostrates her.

Upon a vaginal examination, the finger, instead of being directed backwards and upwards, passed upwards and forwards—where, high up, was distinctly recognized the os tincæ looking towards the neck of the bladder, though not pressing upon it. Behind the posterior wall of the vagina, and in the hollow of the sacrum, could be plainly felt a round, firm tumor. A careful recto-vaginal exploration, determined that this tumor was the fundus uteri, and that there was continuity between it and the cervix. I will remark here that the attending physician, from the strangely altered relation of the parts, had, in the confusion of his mind, mistaken a fold of the posterior mucous membrane for the os tincæ, and had determined a congenital deformity and a double uterus.

The case was one of retroverted uterus. The history furnished satisfactory evidence of the circumstances, and the time the difficulty commenced, and the abuse of cathartic medicine, and other causes, had completed the retroversion after the lapse of so long a time. The treatment could only be palliative. To restore the organ to its proper position, and maintain it there, I could not expect. An effort to dislodge it from its position, proved that adhesions had doubtless taken place with the surrounding structure, and any serious attempt to lift it from its bed, might inflict still more serious injury upon the patient. After the introduction of two or three styles of pessaries, and finding slight relief afforded, I adopted the Horse-shoe pessary, as described in a late number of the American Journal of Med. Sciences. Having at my service an excellent silversmith, I succeeded in obtaining one made, that, being introduced, put upon stretch the posterior vaginal wall—and thereby supporting the organ from farther descent, gave a sensation of comfort and support to the patient (as she remarked) whilst retaining the upright position. The patient herself learning to remove and replace the pessary. With a strict regimen and diet, her general health was very much improved, and she has been enabled to assume again her household duties, to visit her friends, and participate again in some of the pleasures of life.

Lecture on Asthma. Delivered at Hotel Dieu, by Prof. TROUSSEAU. Translated from the Gazette des Hopitaux of September 2nd, 1858, (for the Boston Med. and Surg Journal).

LECTURE II.—SOME OF THE CAUSES OF ASTHMA.

I said in my last lecture, that among the causes of asthma, are some which are particularly worthy of notice, on account of their importance; such are the circumstances of residence, climate and temperature. I will give you some examples in illustration.

Five years ago, a young man came from St. Omer to consult me. Subject to very frequent attacks of asthma, he availed himself of an interval of respite to take the journey. After his arrival in Paris, he had some return of his complaint, but less violent than before, and after two or three days he was cured. His recovery seemed to me astonishingly rapid, and I attributed it to the influence of climate, anticipating that sooner or later the event would confirm my opinion. The patient remained here three weeks; during this time he had but a single attack. Finally, he came to take leave of me; he departed for Versailles, and this journey was to be the proof that I was waiting for. On the first night that he passed in that city, at the very gates of Paris, so to speak, where he had been so well, he had a most terrible attack; in the morning, he did not find himself in his habitual state of health, and in the evening a new attack came on as before.

The following day, he resumed his journey to St. Omer, passing by the way near the capital.

What had led me to anticipate that this journey to Versailles would furnish the evidence I expected, was what the patient had told me. His attacks, he said, had begun in his native town at the age of 19; two years after, his father had taken him to London on business, and from that moment, having borne the passage over which he greatly dreaded, without the slightest attack, although living in the midst of the fogs of the Thames, which are blamed, perhaps with some degree of exaggeration, he never experienced the slightest return of his complaint—and notwithstanding that, during the two years of his life in England, he led the life of a young man, a life of divided work and pleasure, exposing himself to all the causes of catarrh. During this time, although he did not escape colds, he had not a single attack of asthma, and his colds had left him much more promptly than they had in France. After his father's death, the young man returned to St. Omer; hardly re-established in that town, he had a renewal of his old attacks; and at last, after two years of torment from this complaint, he decided to come to see me. Having prescribed a course of active treatment for him, I sent him back to his own town, and some months afterward he sent me

word that he remained in the same condition. I tried to induce him to return here. He replied that it was impossible for him to undertake the journey, his condition was so serious; I nevertheless insisted upon the necessity of his quitting St. Omer. The patient was transported, rather than came, by the railroad, and from the moment of his arrival at the Hotel, where he alighted in Paris, his oppression became less; a few days after, his relief was complete. I had then no other advice to give, but to forbid a residence at St. Omer, and I persuaded the patient to place himself at the head of his house in London.

An old advocate, a friend of mine from childhood, passed, every year, three or four months on his estate of Calvados. Perfectly well at Paris, he scarcely arrived at his place in the country, when he had an attack of nocturnal asthma, coming on, usually, at 10 or 11, P. M. His dyspnoea was such, that he was obliged to pass his nights at the window, notwithstanding the cold of the autumn nights. The following morning he was relieved, and was able to resume the course of his usual occupations.

A third instance. I have among my patients two brothers, twins, both very rich, both keepers of famous gambling houses, and so extraordinarily alike that it is impossible for me to distinguish one from the other, except on comparing them side by side. This resemblance was not limited to physical appearance merely, for they had, allow me to say, a pathological resemblance even more remarkable. For instance, one of them, whom I saw at Neothermes, sick with a rheumatic ophthalmia, said to me, "at this moment, my brother ought to have an ophthalmia like mine." And as I expressed my surprise, he showed me, two days after, a letter which he had received from his brother, then at Vienna, which said, in effect, "I have my ophthalmia, you ought to have yours". However singular this may appear, the fact is nevertheless true; I witnessed it, and I have seen other analogous cases in my practice. To resume: these twins were both asthmatic, and asthmatic to a fearful degree. Born in Marseilles, they had never been able to live there, where their interests often called them, without experiencing an attack; they never had one in Paris. Better still, it was sufficient for them to go to Toulon to be cured of their Marseilles attacks. Travelling often, and necessarily in all sorts of places, they had remarked that certain localities were deadly to them, while in others they were quite exempt from annoyance.

There is, then, a rule for asthmatics, and it is important that I should mention it, for I shall make a great account of it when I come to speak of the nature of this disease.

A young physician, Dr. E. Vidal, has mentioned to me a fact which he had himself observed, and which properly comes

in here. He knew a sea-captain, for a long time affected with this complaint—for many years in fact. Every time he went to Peru to take in a cargo of guano, his attacks ceased from the moment of his arrival at the Chincha Islands where he took in his guano; and his disease, of which he did not then experience the least symptom, from which he seemed radically delivered during the time of his voyage from America to France, returned as soon as he went on shore and breathed an atmosphere not charged with guano. This fact is explained to a certain extent, better by another influence. You know what guano is, and those who have seen it know also how penetrating the odor is which it gives off, an odor excessively ammonical. I shall tell you, in speaking of treatment, the part which ammonia sometimes plays in calming attacks of asthma.

The influences of temperature are not less singular in the production of this complaint.

The sufferer from catarrh dreads the cold, which easily influences him, and becomes the cause of new symptoms; he keeps himself habitually well clothed; in winter he seldom goes out, but keeps in the chimney corner. The asthmatic, on the contrary, seeks for plenty of fresh air, he has a horror of small apartments, of low ceilings, which seem to weigh upon his chest; he dreads woollen draperies. However rich he may be, you will find him usually occupying a chamber either without curtains, or supplied with very light ones; his bed has none; thick draperies and curtains overwhelm, oppress, suffocate him; in the very heart of winter, open windows are as necessary to him as in summer; in a word, he needs a great body of air. That this want is real, that it may be the effect of the imagination, a sort of mania, you will often find, as I shall show you.

Among the peculiar eccentricities which show us also the essentially nervous nature of asthma, there is one which has not escaped the attention of any observer, namely, that in the space of twenty-four hours the asthmatic has his attacks at certain hours, and not at others.

My poor mother whom I had the misfortune to lose twelve years since, and from whom I inherit the asthma with which I am affected, my poor mother had her attacks at eight o'clock in the morning. The rest of the day she came and went with an activity which never failed her, and her nights were good.

I know the master tailor of a regiment of carbiniers, then in garrison at Saumur, who was regularly seized at three o'clock in the afternoon. The attacks were so regular that, on account of this perfect uniformity of the hour at which they came on, I believed them due to a marsh miasm, a kind of masked intermittent. I gave him however the sulphate of quinine in vain.

Although there are thus some examples of diurnal asthma,

most commonly it is at night that the attacks come on. Generally, it is from ten to twelve o'clock at night. And the influence of the bed, of the decubitus in the horizontal position, is here of slight importance; whether the individual is a-bed or up, the attacks return at the same hour of the night; in some they occur a little later. Thus, in my own case, they come on about three o'clock in the morning. Invariably, I am awakened at that hour, and hear the hammer of my clock strike its three blows. At the same time these exceptions do not weaken the general rule.

I have told you that asthmatics seek for nothing so eagerly as fresh air; and, singular fact! nervous asthma is oftener observed in summer than in winter. The attacks occur much more often in the months included between May and November than from November to May. Another thing worthy of remark—asthma is a more common complaint in equatorial regions than in temperate or frigid zones, and yet every one knows how rare thoracic affections are in warm countries, where diseases of the liver and digestive organs predominate over all others. In these countries, catarrhal affections are observed without doubt, but as exceptions; at least so English physicians who have lived in India have taught us, where, Simms says, asthmatics are very numerous.

Thus asthma is a disease of warm countries, it is a summer disease, and when those who are affected with it take cold during the cold season, they recover much more rapidly from their catarrhs at that time than they do in summer, other things being equal.

S. L. A.

Ligature of the Extremities in Intermittent Fever. By Drs. J. DE BRAUW and H. J. BRÆRS.

ACCORDING to Drs. De Brauw and Brærs, the ligature of the extremities is a measure which has been already employed by ancient physicians to aid in the treatment of intermittent fever, but has unjustly nearly fallen into oblivion. Already Pinus (Hist. Nat. xxviii., 6) knew this antiperiodic, as Pittschaff (Hufeland's Journ., li., 3, pp. 47, 48) states, and in Van Swieten's *Commentaries to Boerhaave's Aphorisms*, the "levis brevisque compressio venarum in artubus," is strongly recommended as a means to relieve the burning heat of fever. Dr. V. Hildenbrand, however, declares the remedy, in his *Institutiones Practico-Medicæ*, to be unreliable, and in many respects unsafe, and recommends caution in the use of it. Jos. Frank (Prax. Med. Univ. Præcepta) speaks of it in a very superficial manner, like many other, particularly more recent authors. One of the most enthusiastic commenders of this method is George Kellie, (Duncan's

Medical Commentaries, vol. xix.,) who, during the siege of Willemstad by the French army, in 1793, cured many cases of intermittent fever (which had resisted the use of quinine) completely, by compression of the extremities. Upon his recommendation several physicians in England—for instance, Veitch and Wallich, (*Mediz. Nationalzeitung*, July, 1798,) and in the Netherlands, (*Agemene Vaderl. Lettervefningen*, 1808, 5,)—tried his method with signal success. Of the more recent communications on this subject, that of Prof. Chladni (*Hufeland's Journal*, xlii., p. 133,) is worth particular attention. This celebrated savant being attacked in 1813 by an obstinate intermittent fever, used the remedy with much advantage. He describes it as quite innocuous, and explains its curative influence by the supposition, that by the ligature of the extremities the return of blood to the heart, and to the centres in general, is hindered or partially suspended, and that the full development of one of the principal symptoms, the chill, being thus interfered with, an interruption and disturbance of the whole type of fever takes place.

This method belongs moreover to one of the oldest popular remedies used in Russia, England, and France. In *Cunstatt's Jahresbericht*, (Jaborg., 1848, p. 113,) the cure of a quartan by application of Junod's boot is mentioned, a fact which seems to be intimately connected with the subject in question. According to Jolly, (*Dict. de Méd. et de Chir.*, tome xi., part i., p. 363,) who gives a detailed account of the *ligatures circulaires des membres*, the ligature should be applied to the four extremities at the same time, but in such a manner that only the circulation in the superficial vessels is suspended. Martinet, Robinau, Récamier, and Husson, kept up the compression for not longer than twenty-five to fifty minutes, and commenced with it in the cold stage.

Jolly recommends taking off the ligatures one by one, at intervals of several minutes, as by the simultaneous removal of the same too much blood would be at once introduced into the circulation, which might be attended with evil consequences.

The most complete information on the subject of his investigation the author found in a dissertation of R. v. Bærle: *De valde multiplici febrium intermittantium medicatione speciatim de membrorum majorum circumstrictione tantaminibus in nosocomio academico explorata*, Utrecht, 1809. In this treatise the ligature of the extremities is thoroughly illustrated by the report of seven cases, and highly recommended. V. Bærle commenced the treatment with the administration of a gentle purgative; the patients were kept in bed, and subjected to a rigid diet during the paroxysm; shortly before the commencement of the cold stage, the thighs and upper arms were encircled by ligatures exercising a moderate pressure, which were removed in from six

to fifteen minutes, or later, according to the effect they produced; after Wallich's example he forbade warm drinks during the cold stage, but recommended cold drinks in the hot stage. From observation of this kind the author draws the following conclusions:—The ligature of the extremities is a safe and powerful means of assistance in the treatment of intermittent fever; it is not only an adjuvant to other antiperiodics, but also a febrifuge by itself. It cures the febris intermittens simplex and duplex, as well as the quotidiana. In regard to the quartana no experience has been made. The ligatures must be allowed to remain until the hot stage begins; a longer application does not lessen their effect. The method seems to owe its curative property to the disturbance of the usual course of the fever, (Chladni.) Sometimes the paroxysm is transferred under this treatment from the third day to the second, but generally so that the tertian type is not interrupted, or that a febris duplex is developed. The compression of the extremities is always followed by some increase of the heat and perspiration, the signs of an energetic reaction. After repeated use of this method the fever gradually subsides. Contra-indications to it never existed, but may be easily inferred from an examination of the *modus operandi* of the remedy.

Dr. De Brauw generally applied compression to two extremities only, but considers the ligature of all four far more efficacious in obstinate cases, and recommends the method as being capable in some cases to substitute the use of quinine.

In cases of relapse of intermittent fever, in which the patients complain of that characteristic pain in the lumbar region (fifth lumbar vertebra,) against which cups are used without effect, Broers recommends the application of the galvanic current to the mentioned spot as a highly serviceable, though occasionally inefficient means. After the second or third application of this remedy the cachectic appearance, as well as the depressed feelings of the patients, underwent a favorable change. Relapses of the fever, consequent upon a return of the patient into the malarious district, yielded quickly to this mode of treatment, even when quinine was administered without success.—[*Nederland. Tijdschr.*, 1858, and *Medizinische Neuigkeiten*, 1858, and *N. Amer. Medico-Chir. Review*.

On the Action of Certain Vegetable Diuretics. By WILLIAM A. HAMMOND, M.D., Assistant Surgeon, U. S. Army.

THE ensuing investigations consist mainly of repetitions of those performed some years since by Krahmer, and subsequently by Bird. They have reference to the appreciation of the influence of squill, juniper, digitalis, and colchicum, over the quantity of the urine, its specific gravity and the amount of its solid organ-

ic and inorganic constituents. They were all performed upon healthy adult males.

The quantity of urine was determined in cubic centimetres, and the weight of solids in grammes.

The method employed for the determination of the whole amount of solid matter was as follows:—

Ten cubic centimetres of the urine were evaporated to as complete dryness as possible *in vacuo* over sulphuric acid, and the residue accurately weighed. By simple proportion the amount of solids in the whole quantity of urine was easily ascertained.

Although it is impossible to get rid of all the water by this process, the quantity remaining is extremely small, and the results obtained are far more accurate than those yielded by evaporating to dryness in the water-bath as generally practised. No matter how carefully this latter method is conducted, the loss of urea, by decomposition, is always an important item, and involves far more serious errors than the imperfect desiccation by the former process.

For the determination of the amounts of organic and inorganic constituents separately, the solid residue obtained as above was mixed with ten or fifteen drops of moderately strong nitric acid, and gently heated until the mass was well dried. The heat was then gradually raised till all the carbon was consumed, and the mass in consequence became white. It was then cooled *in vacuo* over sulphuric acid and weighed. The inorganic matter was thus determined and the loss showed the proportion of organic substance.

Digitalis.—The subject of the experiments with this substance, was about twenty-five years of age and in good health. For the three days immediately preceding the commencement of the investigations, the average quantity of urine daily excreted by him was 1474.5 cubic centimetres, the specific gravity was 1024.30, and the average total amount of solid matter was 75.31 grammes, of which 30.17 grammes were inorganic, and 45.14 organic constituents. The digitalis was given in the form of the officinal tincture in doses of 20 minims three times in 24 hours, and was continued for three consecutive days. During this period the manner of living (food, drink, exercise, etc.) was as nearly as possible the same as during the preliminary investigations.

1st day. The urine passed on this day was of a pale straw-colour and feeble acid reaction; quantity 1950 cubic centimetres; specific gravity 1013.25; total solids 69.98 grammes, of which amount 31.27 were inorganic and 38.71 organic matter. The action of the digitalis was not manifested otherwise than by its effect upon the urine.

2nd day. The urine passed on this day was of similar physic-

al character to that above mentioned. The quantity was 1873.6 centimetres, the specific gravity 1014.32, and the total solids 63.74 grammes. The inorganic solids amounted to 30.15 grammes, and the organic to 33.49.

The pulse on this day was somewhat slower and fuller than on the previous day.

3rd day. The quantity of urine evacuated on this day was 1624.9 cubic centimetres, and of specific gravity 1020.04. The total amount of solid matter was 67.29 grammes, of which 33.19 were inorganic and 34.10 organic.

The colour, reaction, and odour of the urine were similar to those of the two previous days.

The characteristic effects of the digitalis upon the action of the heart were well marked during this day.

The effect of the digitalis in increasing the amount of urine is seen to have been greatest on the first day. On the second day it had fallen somewhat, and on the third was but 150 cubic centimetres greater than when no digitalis was taken. The solids, it is seen, were less than the normal standard from the commencement, were still further reduced on the second day, and on the third were slightly increased. This diminution is perceived to have been owing to the lessened amount of organic matter excreted. The inorganic substances were somewhat increased in amount over the ordinary proportion.

Juniper.—The experiments with this substance were conducted on a healthy man thirty-five years of age. The average condition of his urine for the three days immediately preceding the investigations was as follows: quantity 1237.5 cubic centimetres, specific gravity 1022.50; total solids 61.23 grammes, of which 23.12 were inorganic, and 38.11 organic matter. It was of ordinary colour and odour, and of strong acid reaction.

Sixteen ounces of the official infusion of the berries of the *Juniperus communis* were taken during the twenty-four hours, and the manner of living kept as nearly as possible to correspond with that of the preliminary experiments.

1st day. For this day the quantity of urine amounted to 1732 cubic centimetres, the specific gravity of which was 1016.38; the total solids were 62.75 grammes; of this amount 25.43 grammes were inorganic, and 37.32 organic constituents.

The urine was of a pale straw-colour and gave off the characteristic odour produced by juniper. The reaction was feebly acid.

2nd day. The quantity of urine passed on this day was 1885.2 cubic centimetres. The specific gravity was 1014.15, and the total solids 58.49 grammes, 22.17 of which were inorganic, and 36.22 organic matter. The physical characteristics were similar to those of the day before. The reaction was barely acid.

3rd day. On this day the quantity of urine was 1672.5 cubic centimetres, with a specific gravity of 1018.41. The total solids amounted to 63.27 grammes, of which 27.50 were inorganic, and 35.73 organic matter. The physical characteristics and reaction were the same as on the previous day.

From these experiments it is seen that whilst the quantity of urine was materially increased by the juniper, the amount of solid matter, as a whole, was but slightly affected, the loss in organic matter being about compensated for by the increase of the inorganic.

Squill.—The experiments with this substance were instituted upon myself, and were conducted upon the same general principles as the foregoing series. The average daily quantity of urine, for the three days preceding the investigations, was 1358 cubic centimetres. The specific gravity was 1023.51, and the total solids 69.35 grammes; of this amount 27.22 were inorganic, and 42.13 organic matter.

I took two grains of the dry bulb of the *Scilla maritima*, three times in the twenty-four hours. The other conditions remaining the same as in the preliminary examination of the urine.

1st day. The quantity of urine passed on this day was 1572 cubic centimetres, of 1020.34 specific gravity. The total solid matter was 6067 grammes, 31.07 of this amount being inorganic, and 29.60 organic constituents. The urine was of feeble acid reaction.

2nd day. Quantity of urine 1493.5 cubic centimetres, specific gravity 1020.90, total solids 58.22 grammes, inorganic matter 30.15, organic 28.07 grammes. The reaction, etc., were the same as on the preceding day.

3rd day. On this day the quantity of urine amounted to 1535 cubic centimetres, and was of 1019.37 specific gravity. The total amount of solid matter was 61.58 grammes, of which 30.58 were inorganic, and 31.00 organic constituents. The reaction, colour, etc., were unchanged.

From the above experiments it is perceived that the action of the squill was similar to that of the digitalis and juniper, i.e., causing an increase in the water of the urine and inorganic solids, but a reduction of the amount of organic matter. The loss of organic matter was considerably greater than with either of the other substances.

Colchicum.—The investigations into the action of this substance were performed upon a healthy man twenty-eight years of age. The urine for the three days immediately preceding the commencement of the experiments, was of the following daily average character; quantity 1230 cubic centimetres, specific gravity 1025.03; total solids 63.12 grammes, inorganic matter 29.83, and organic 33.29. The reaction was very strongly acid.

One and a half drachms of the officinal tincture of the seeds of the *Colchicum autumnale* were given three times in twenty-four hours, and continued for three days. During this period the food, exercise, etc., were as nearly as possible the same as during the preliminary series.

1st day. The quantity of urine passed on this day was 1595.7 cubic centimetres, with a specific gravity of 1024.37. The total solids amounted to 77.29 grammes, the inorganic matter of which was 36.50 grammes, and the organic 20.79 grammes. The reaction was strongly acid.

2nd day. Quantity of urine 1484.1 cubic centimetres, specific gravity 1024.31; total solids 75.22 grammes. The amount of inorganic matter was 35.01 grammes, and of organic 40.21. The reaction was very strongly acid.

3rd day. On this day the quantity of urine amounted to 1620 cubic centimetres, and was of 1022.6 specific gravity. The total amount of solid matter was 79.33 grammes, of which 34.20 were inorganic, and 45.13 organic constituents. Reaction strongly acid.

It is thus perceived that the action of the colchicum, as compared with that of the other substances experimented with, was very remarkable, it being the only one with which there was an increase in the amount of solid matter eliminated, both organic and inorganic.

From the foregoing experiments the following table embracing the averages of each series of investigations is constructed :

	QUANTITY OF URINE.	SPECIFIC GRAVITY.	TOTAL SOLIDS.	INORGANIC SOLIDS.	ORGANIC SOLIDS.
Normal standard.....	1474.5	1024.30	75.31	30.17	45.14
Digitalis.....	1822.8	1015.87	67.00	31.54	35.43
Normal standard.....	1237.5	1022.50	61.23	23.12	38.11
Juniper.	1763.2	1016.28	61.50	25.03	36.42
Normal standard.....	1358.0	1023.51	69.35	27.22	42.13
Squill.....	1533.5	1020.20	60.15	30.60	29.55
Normal standard.....	1280.0	1025.08	63.12	29.83	33.29
Colchicum.....	1556.6	1023.53	77.28	35.23	42.04

From the foregoing investigations, I think it is deducible that neither digitalis, juniper, nor squill, increases the total amount of solid matter eliminated by the kidneys, and that the organic matter is considerably reduced through their influence. Although they do not increase the amount of inorganic matter removed through the urine, yet as it is the organic matter which is generally considered as contaminating the blood in disease, it is evident they exert no effect whatever in depurating this fluid, but on the contrary are positively injurious.

The results obtained, in so far as the experiments with digitalis, squill, or juniper, are concerned, are similar to those obtained by Krahmer, but are materially different as regards the colchicum. For, although Krahmer found that under the influence of this medicine there was an increase in the amount of organic matter excreted, this was so small as to lead to the supposition that it may have been accidental, and besides there was a reduction in the quantity of inorganic substance removed. It is desirable, therefore, that we should have further observations with this article.—[*Proc. Biol. Dep. Acad. Nat. Scs. of Philad.*

Epilepsy for Thirty-two years in a man aged Forty-four, with discoloration of the Skin from Nitrate of Silver; Operation of Castration. Under the care of Mr. HOLTHOUSE.

AMONG the causes of epilepsy mentioned by various writers, extreme sexual excesses are considered as not the least important. They would appear to have much influence on the frequency of the fits, as is shown in the narrative of the following case, the notes of which were taken by Mr. H. Ponsonby Adair, house-surgeon to the hospital. There are cases on record in which castration has been resorted to as a means of relief. In one reported by Mr. J. P. Frank, the *aura epileptica* began in the testicle, and it is asserted that a permanent cure followed castration.

This operation is much practised at the present day among the Eastern nations, for the sole purpose of depriving their slaves of manhood; and Mr. Curling informs us, in his work on the "Diseases of the Testis," that in Italy it was once frequently performed, on account of its effects on the vocal organs.

Eli B—, aged forty-four, widower, native of the United States, bookseller, was admitted into Luke ward, in the Westminster Hospital, on the 4th of January, under the care of Mr. Holt-house, in order to have the operation of castration performed for the cure of epilepsy.

The patient is one of fourteen children, of whom eleven are living and healthy; his father is alive, aged eighty-four, and his mother died at eighty. There is no insanity in his family, nor is any member of it afflicted with epilepsy. He was a healthy child till he was ten years of age, when he commenced to practice masturbation, and soon after had an epileptic fit, in which he bit his tongue. This was followed by severe pain in the head, and incapacity for exertion next day. The fits occurred every three or four weeks. They came on suddenly, without any premonitory symptoms. During the first two years he took "skull-cap tea," without effect; his diet was also regulated. He

still continued to practice self-abuse, and did not finally relinquish it till he was twenty-two, about the time when he began to take nitrate of silver. For two years he tried homœopathy, the fits increasing in severity. He was at school up to the age of fifteen, when he tried a sea-voyage, but without benefit. Having returned, he sailed for South America, where he remained for two years, the fits being as frequent as before. While at New York he contracted gonorrhœa, having been accustomed to frequent sexual intercourse from the age of sixteen, in addition to the habit of self-abuse. He remained in New York for a few months, trying various remedies, among them sulphate of zinc, but without relief. He went again to the South for a few months, and upon his return he placed himself under the care of Dr. Kissam, (his brother-in-law,) who prescribed nitrate of silver, in doses of one-eighth of a grain, three times daily, and in two months it was increased to half a grain. Very soon after he began to take this remedy, the severity and frequency of the fits began to decrease, and he was so convinced of its efficacy, that he continued its use for about eight months, against the advice of Dr. Kissam, who feared it might affect his skin, which, indeed, it did to some extent, giving it a blue tint. At the end of this time, the fits left him for a period of two years, having gradually decreased in frequency under the use of the nitrate of silver. From the time of his contracting gonorrhœa till his marriage, he abstained altogether from sexual intercourse and the habit of self-abuse, so that during the whole time he was taking the nitrate of silver he had no extraneous sexual excitement; yet during this period he says that he was constantly troubled with nocturnal erections, and frequent seminal emissions. Being now twenty-four years of age, he married, shortly after which he again became addicted to sexual excesses. He left his wife and his business for several months, and travelled; the fits, however, recurred every three or four weeks, and were very severe. On his return his wife died, and he remained a widower six years, abstaining altogether from sexual excesses, although frequently troubled with erections. During the six years he broke his arm, several fingers, and his leg twice, while in the fits. At the age of thirty he married a second time, the fits having increased in number and severity. He was often compelled to send his wife into the country for a day or two, in order to avoid sexual excitement. The fits now recurred daily. His wife died a year after marriage. After this he again abstained from sexual excesses. Dr. Horace Green, of New York, now cauterized his larynx daily with nitrate of silver, and at the end of three or four months he would be free from fits for nineteen days; when they did recur, they were so slight that he scarcely lost consciousness, and did not fall down. This plan of treat-

ment was pursued for two or three years, at the end of which time he became attached to another young woman, which revived all his old amatory feelings, and the fits began to increase in frequency, recurring at intervals of fourteen days, when they would continue daily for a week, and then cease for fourteen days more. Galvanism was now tried, with some slight beneficial effect. Next arsenic, in the form of Fowler's solution, which he continued until the fits recurred daily, and he became so prostrate that he was confined to his bed. For a long time he took iron to neutralize the effects of the arsenic, but for months he was compelled to walk on crutches. He came to England two years ago, to have tracheotomy performed by Dr. Marshall Hall, who had advised it when he saw the man in America. Dr. Hall died soon after the man's arrival, and he went to Paris, and was under the care of M. Nélaton. Afterwards he placed himself under the care of M. Trousseau, who gave him Belladonna, which affected his vision, but not his fits. Dr. de Lasiauve next treated him with camphor for four months, without effect. He returned to England, and was under Mr. Simon, at St. Thomas's Hospital, in order to have castration performed, in which he had great faith, for he attributed his fits chiefly to sexual excitement, which still troubled him much; but his wish was not acceded to. He took bromide of potassium without any benefit, and then the nitrate of silver for two or three months, in half-grain doses three times a day. The skin became darker than before, and the fits recurred daily. He next went to Germany, and was there sounded for a stone in the bladder on account of frequent micturition, which he has had since infancy. No calculus was present. He was an inmate of the hospitals of Vienna, Prague, and Dresden. He left the latter in October, 1858, and was admitted into the Westminster Hospital, under Dr. Radcliffe, on the 30th of the month, and remained in two months, during which time he took quinine and iron, and camphor, but without avail. Since his second wife's death he has entirely abstained from sexual intercourse, though he has been constantly troubled with nocturnal erections, and occasional seminal emissions, and these continued up to the time when he came under the care of Mr. Holthouse, to whom he applied to perform castration, which, after much deliberation, he consented to do; and it was performed upon both testicles on the 4th of January, 1859, under the influence of chloroform. Two or three hours afterwards, there was considerable hemorrhage, which was checked by the application of cold. He had one fit during the hemorrhage. His face has a bluish-slate tinge, which pervades the body, but the color is darkest on the face. His fits are of the rotary kind, preceded by a sudden scream, and lasting not more than a minute, and when over he is quite himself again. In the fit which he

had in bed after the operation, he did not scream, but merely struggled violently.

January 5th.—He had another fit this morning.

6th.—The fit recurred early this morning.

7th.—At four this morning another fit occurred. He says that after his second marriage the fits frequently followed immediately on the act of connection.

8th.—Has had no fit at all to-day.

9th.—Had a very slight attack this morning, scarcely more than a giddiness for a minute. Altogether, since the operation, the fits have been exceedingly mild.—[*Lancet*, and *North American Med. Chir. Review*.]

Fæces.

FÆCES consists partly of undigested, partly of indigestible substances; their odor depends on volatile fatty acids: butyric acid, and capric acid also called fæcin. Sulphuric acid is employed as a test for fæces in cases of strangulated hernia, &c., after having first mixed them with water; the fatty acids are thus volatilized, and are then recognized by their smell. Sulphuretted and phosphuretted hydrogen are formed in the intestinal canal, and are partially absorbed by the fæces. The color of normal fæces is yellowish brown, from caprophæin, which is a product of biliphæin. Biliphæin does not occur as such in them. Caprophæin immediately strikes a red color with nitric acid. If the flow of bile into the intestinal tube be obstructed, the fæces assume a pale color. Soluble salts are found only in very small quantity in the fæces; under the microscope, we observe portions of vegetable matter (spiral vessels), and from these the ashes of incinerated fæces derive their potash. The earthy phosphates are found in great quantity; in rachitis they are so abundant, that the ashes occupy almost as much space as the fæces did before incineration. Of iron there is scarcely a trace; the ashes are white.

The consistence of abnormal fæces may be natural, increased or diminished.

1. In fæces of natural consistence we do not find much that is abnormal. In affections of the bones, and especially in rachitis, the earthy phosphates are present, as has been observed, in excessive quantity. After the use of ferruginous remedies (which however, usually produce a thinner, porridge-like consistence), and after hemorrhoidal bleeding, we observe a darker, blackish-green color, derived from sulphuret of iron. The ashes then have a rusty brown color, whilst the ashes of vegetable coloring matters are white. Analysis does not show whether the iron is

derived from the chalybeate preparations which have been taken, or from blood. In thin fæces albumen may be sought for.

2. *Increased consistence* is observed after the ingestion of carbonate of lime (in spring-water, or as chalk, &c.) in abstinence from drink, in chlorotic patients, &c.

3. *Diminished consistence*.—Before examination, the portions which are not quite fluid should be dissolved or suspended in water. We may distinguish.

(a) *Watery Discharges*.—These contain soluble salts, which do not ordinarily occur in the fæces, and usually some biliphæin; their reaction is sometimes neutral, sometimes acid; in children this is owing to the presence of lactic acid.

(b) *Serous Discharges*.—The fluid floating above the solid portions contains albumen, although the solid parts do not contain blood (in which case these portions would be of a greenish or brownish-black color). They have an alkaline reaction derived from carbonate of soda, sometimes also from ammonia, as in typhus, and are generally poor in caprophæin. They occur in chronic diarrhœa, dysentery, typhus, and cholera.

(c) *Bloody Discharges*.—They are either of a bright red color, from the lowest part of the intestinal canal, and exhibit blood-corpuscles under the microscope; or are darker colored in proportion as the effusion has taken place higher up in the tube; if they are derived from the stomach, they are black as pitch. Iron may be demonstrated in the ashes and albumen in the fluid portions.

(d) *Bilious Discharges* are sometimes pap-like, sometimes watery, sometimes serous; they usually contain biliphæin instead of caprophæin. It is detected by means of Heller's test. Great importance is often ascribed to them, as they are supposed to be connected with an affection of the liver. When diarrhœa sets in rapidly, the first motions almost always contain biliphæin; this is, therefore, formed after the exhibition of purgatives, in the commencement of cholera, &c. Where biliphæin is long persistent (cholorrhœa) we may infer the existence of an affection of the liver. In dysentery the excretion of bile seems somewhat increased.

The green stools which occur during the use of mineral waters often proceed from sulphuret of iron. After calomel, they proceed from sulphuret of mercury; but we should remember in both cases that biliphæin passes off in the beginning, as during the administration of other purgatives.

(e) and (f) *Mucous and Purulent Discharges* are not easily distinguished. The microscope exhibits no diagnostic characters. In purulent stools the fæcal serum contains albumen. Mucus is found in the mass, as transparent lumps capable of being drawn out into threads; it is also often voided in this form

without any fæcal mass. Pus is more equably intermixed; where ammonia is not present, and has not already affected the pus, the ordinary test for that secretion may be applied to these fæcal masses.

All diarrhœal discharges may become *ammoniacal*; it is a bad sign: we find a strongly alkaline reaction, and with it invariably crystals of ammoniaco-magnesian phosphate. This condition frequently attends purulent diarrhœa in typhus and puerperal fever. In dysentery the fæces may become ammoniacal without giving rise to an unfavorable prognosis, as the development of ammonia proceeds from the decomposition of intermingled urea derived from the blood and serum.

Biliary Calculi are in general distinguished from conglomerated fæces by floating in water. They may consist of,

1. *Cholesterine*, which occurs in masses of all possible sizes, sometimes exceeding that of a pigeon's egg; such calculi are ordinarily white or slightly colored with biliphæin. Ignited on platina foil, they first melt, and then burn with a yellow flame, forming much soot, and developing a smell of burning fat. They dissolve in boiling alcohol, from which the cholesterine precipitates on cooling in the form of white scales. It is by this process cholesterine is usually obtained.

2. *Cholesterine and Biliphæin*.—This is the most usual form of biliary calculi; they are of a brownish-yellow or dark orange color, and participate in the characters of Nos. 1 and 3.

3. *Biliphæin*.—These calculi are blackish-brown, do not fuse on platina foil, but burn with a faintly yellow flame. Extracted with solution of potash they give a dark orange-yellow solution, to which Heller's test is to be applied.

4. *Inspissated Bile*.—These are very common in the old; are usually small, black or green, very hard, and do not fuse when heated on platina foil. They are to be extracted with solution of potash, to which Heller's test for biliphæin and Pettinkofer's test for bilin are to be subsequently applied.

5. *Carbon*.—(Demonstrated by Berzelius); these are rare, do not fuse, and are insoluble in all re-agents.—[Heller, by Dahl, and *Medical News*.

Bradycrote Treatment of Yellow Fever by Gelseminum Sempervirens. By Drs. WHITE and FORD, Charleston, S. C.

IN view of the results obtained from a reduction of the pulse, in the treatment of the fever as observed under the veratrum, and in order to contrast with this drug another remedy possessing similar powers, at the suggestion of Dr. White, we also used in the present epidemic the tincture of gelseminum sempervirens,

which was prepared after the following formula: *R.* Rad, gelsem. semp., $\text{\text{3 iv.}}$, alcohol (95 per cent.) aq. com., *aa* $\text{\text{3 viij.}}$ *M.* And digest 14 days, then filter. The initial doses of this tincture were, for adults, from 20 to 30 drops—and for children, from 5 to 20 drops, every hour for the first four hours, and as with the veratrum the secondary doses were half as large.

Certain cases which had been seen late, or were characterized by notable irritability of the stomach, as also some which showed no special malignity were treated by this agent with marked advantage; upon whose employment Dr. White decided in consequence of the statements of Dr. Cleveland, of Cincinnati, and of Dr. Mayes, of South Carolina, in this journal, concerning its influence upon the pulse and freedom from irritant properties, &c. From notes taken upon cases thus treated, we have deduced the following numbers:

Total number treated with gelseminum sempervirens, 24; all of which recovered. Of these, 15 were males and 9 females. Adults, 12, and children, 12; whites, 22; and blacks, 2; natives of Charleston, 10; South Carolina, 5; Ireland, 7; Germany, 2.

Mean frequency of Pulse.	ADULT MALES. Beats per Min.	ADULT FEMALES. Beats per Min.	CHILDREN. Beats per Min.
When first given - - -	112.4	101.3	122.2
Twelve hours after - - -	55.4	54.6	70.9

Of the whole number treated, 2 vomited black vomit, 5 passed black vomit downwards. In 3 cases hemorrhage occurred from tongue, gums or nasal passages.

One woman was in the sixth month of her pregnancy, and did not abort.

Avera. duration of treatment.	ADULT MALES. Days.	ADULT FEMALES Days.	CHILDREN. Days.
For - - - - -	7.2	9.3	8.5

No marked prostration was caused by this remedy. The pulse being, however, much less quickly reduced than by the veratrum. In few cases was the heart's action fully lowered in less than 12 hours, and it was well controlled throughout the rest of the disease in the majority of cases. The concurrent treatment was the same as with the veratrum. Mercurialization was complete in 10 cases; incomplete in 14 cases. In a few instances, a marked redness of the tongue was observed, a condition that was not distinctly noticed during the administration of the veratrum. The gelseminum appeared to produce a general calming influence even during the early period of its administration, but was not found to possess any marked narcotic properties. It seemed also, to promote the action of the kidneys, and during its use only, in several cases, an erythema of the skin was noticed. This drug appeared to influence the volume of the pulse before

it affected its frequency, and in most cases for the rest of the disease to control both conditions in an equal manner—emesis was not observed to ensue upon the administration of this medicine; the gastric irritability peculiar to the disease being moreover to all appearance favorably influenced.

The total number of cases of yellow fever treated with a slow pulse by the *veratrum viride* and *gelseminum sempervirens*, was conjointly 141, of which 15 died and 124 recovered.

Total number of cases treated by ordinary methods were 6, of which 3 recovered and 3 died. These vomited black vomit and died. One was a pregnant woman in her seventh month, who died without abortion.

In conclusion, we beg leave to remark, that the confidence with which we were inspired by the use of these drugs in the commencement of the epidemic has continued unabated: that we still continue to use them, and intend to do so again, should our city be unfortunately re-visited by this obdurate and calamitous disease.

With apologies for the length and statistical nature of this communication, we remain respectfully yours.—[*N. York Jour. of Materia Medica.*]

Matters Discharged by Vomiting.

ACCORDING to the chemical nature of their contents we may distinguish the following varieties:—

1. *Normal Contents of the Stomach.*—These, in addition to the ingesta, consists of a mucous, transparent fluid, having a strongly acid re-action, which is a mixture of mucus and gastric juice. In the latter we find all the salts of the blood and a peculiar acid, the acid of the stomach. This possesses the energy formerly attributed to pepsin; pepsin is only a product of decomposition, developed by the action of dilute hydrochloric acid on mucus. The acid of the stomach is soluble in alcohol and in water; if we evaporate the alcohol, a viscid mass of syrupy consistence remains behind. Free hydrochloric acid is not found in the stomach, except when the chloride of sodium of the gastric juice is decomposed by acids. Lactic acid and fatty acid are derived solely from the food.

2. *Watery vomitus* is the normal contents of the stomach plus water, has an acid re-action, contains no albumen, and must be carefully distinguished from the following:—

3. *Serous vomitus.*—In this the gastric juice has nearly disappeared; it has an alkaline reaction, and may be almost considered as a very watery serum of the blood; it contains small quantities of albumen, alkaline carbonate, and albuminate of soda. It occurs in cases of very frequently repeated vomiting, where

the effort gives rise to hyperemia and exosmosis: consequently in pregnant women, almost constantly in perforating ulcer, which has not yet produced hemorrhage, in carcinoma, &c., and in cholera.

4. *Uremic vomitus* occurs in connection with other uremic phenomena. It has an alkaline reaction in consequence of the presence of carbonate of ammonia, which is detected as in albuminous urine; it contains in addition albumen, urea, and sometimes uric acid and uroxanthin.

5. *Bilious vomitus*.—Chiefly in hyperemia of the liver, especially when metallic poisons become deposited in that organ, which takes place very rapidly, as in poisoning by copper and arsenic. Biliphæin is usually present in the green or blue, rarely in the yellow, modification; in poisoning with copper, the color is derived from it. Bile is also frequently found mixed with the varieties of vomitus. Biliphæin is demonstrated by means of Heller's test; bilin is decomposed so rapidly in the stomach, that it can be rarely detected.

6. *Bloody vomitus*.—We may find a fresh red color, or it may have already become of a blackish brown; in the first case, we shall be able to discover blood corpuscles; in the second, these will not be apparent; in both cases, we shall have albumen. To distinguish the colored substance from berries which may have been eaten, we may burn it on a piece of platina foil; fruits give a white ash, blood a rusty brown. The ash may be dissolved in hydrochloric acid, neutralized with ammonia, and tested for iron.

7. *Fæcal vomitus* is characterized by a yellow color and fæcal smell, the latter being increased on the addition of concentrated sulphuric acid.

8. *Purulent vomitus* is distinguished by means of the potash test, and by testing for albumen.—*Heller, by Dahl, and Med. News.*

On the Hautle, or Animal Bread of the Mexicans. By M. GUERIN-MENEVILLE.

IN the *Bulletin de la Societe Imperiale Zoologique d'Acclimation*, M. Guerin-Meneville has published a very interesting paper on a sort of bread which the Mexicans call Hautle, and which is made of the eggs of three species of hemipterous insects belonging to the group of water-bugs.

According to M. Craveri, by whom some of the Mexican bread, and of the insects yielding it, were brought to Europe, these insects and their eggs are very common in the fresh waters of the lagunes of Mexico. The natives cultivate in the lagune of Chalco, a sort of *carex* called *toule*, on which the insects readily

deposit their eggs. Numerous bundles of these plants are made, which are taken to a lagoon, the *Tescuco*, where they float in great numbers on the water. The insects soon come and deposit their eggs on the plants, and in about a month the bundles are removed from the water, dried, and then beaten over a large cloth to separate the myriads of eggs with which the insects had covered them. These eggs are then cleaned and sifted, put in sacks like flour, and sold to the people for making a sort of cake or biscuit, called *hautle*, which forms a tolerably good food, but has a fleshy taste, and is slightly acid. The bundles of *carex* are replaced in the lake and afford a fresh supply of eggs, which process may be repeated for an indefinite number of times.

Moreover, says M. Craveri, the Mexicans collect quantities of these insects from the surface of the water by means of hooped nets, and these are dried and sold as food for birds. In Mexico, these dried insects are sold in the streets and markets, the dealers crying "*Moschitos, Moschitos*," just as in Europe they cry "*Food for your singing birds*".

It appears that these insects have been used from an early period, for Thomas Gage, a religionist, who sailed to Mexico in 1625, says, in speaking of articles sold in the markets, that they had cakes made of a sort of scum collected from the lakes of Mexico, and that this was also sold in other towns.

Brantz Mayer, in his work on Mexico (*Mexico as it Was, and as it Is*, 1844), says, "On the lake of Tescuco, I saw men occupied in collecting the eggs of flies from the surface of plants and cloths arranged in long rows as places of resort for the insects. These eggs, called *Agayacath*, formed a favorite food of the Indians long before the conquest, and when made into cakes resemble the roe of fish, having a similar taste and appearance. After the use of frogs in France, and birds' nests in China, I think these eggs may be considered a delicacy, and I found that they were not rejected from the tables of the fashionable inhabitants of the capital.

The more recent observation of Messrs. Saussure, Salle, Valet D'Aoust, &c., have confirmed the facts already stated, at least in the most essential particulars.

The insects which principally produce this animal farina of Mexico, are two species of the genus *Corixa* of Geoffroy, hemipterous insects of the family of water-bugs. One of these species has been described by M. Guérin-Meneville as new, and has been named by him *Carixa fermorata*. The other, identified in 1831 by Thomas Says, as one of those sold in the market at Mexico, bears the name of *Corixa mercenaria*.

The eggs of these two species are attached in innumerable quantities to the triangular leaves of the *carex* forming the bundles which are deposited in the water. They are of an oval form

with a protuberance at one end and a pedicle at the other extremity, by means of which they are fixed to a small round disc, which the mother cements to the leaf.

Among these eggs, which are grouped closely together, and sometimes fixed one over another, there are found others, which are larger, of a long and cylindrical form, and which are fixed to the same leaves. These belong to another larger insect, a species of *Notonecta*, which M. Guérin-Meneville has named *Notonecta unifasciata*.—[*Jl. de Pharm.*, and *London Phar. Jour.*

A Case of Spontaneous Hydrophobia. By Dr. HENRICH.

F. K., thirty years of age, suffered on the twenty-ninth of May, 1857, of cephalalgia, which radiated from the forehead to the occiput, and of all the symptoms of a cold in the head. On the morning of the thirteenth he complained of chills, and distressing horripilations. Dr. Henrich examined the patient attentively, without finding in the throat or elsewhere a single sign of disease. In the evening he was called in great haste to the patient, whom he found sitting in the bed, the face bathed in perspiration, pale, and expressive of terror; the eyes injected, brilliant, haggard; the voice hoarse, anxious, and broken. The patient complained of pain and constriction in the throat and chest, of intense thirst with impossibility to drink, and of dryness of the mouth. The respiratory movements were accelerated, superficial, and irregular; they became normal in the interval of the spasms, which followed each other rapidly; but when the throat became constricted, the patient seemed to suffocate, and carried the hand to the neck as if to remove an obstacle to respiration. The saliva flowed in great quantity from his mouth. Pulse ninety, and feeble. Pharynx a little reddened, and covered like the mouth with viscid mucus.

After earnest entreaties, Dr. Henrich finally succeeded in trying to overcome his violent horror of liquids; after having for a long time struggled against a convulsive contraction of the muscles of the forearm, he could finally bring a glass of water to his mouth, but hardly had the first few drops of the liquid touched his lips, when he was seized with a violent attack of suffocation. He threw his glass away with a gesture of despair, and taking refuge in the remotest part of the bed, cried out to take the water away; that he could not swallow; that he was suffocating.

In this condition he remained during the night. The impression of light or of a current of air exercised, however, no perceptible influence upon the spasms, and the vesicles of Morochetti were not found on the margin of the tongue. In spite of venesection, a blister on the chest, etc., all the symptoms were aggra-

vated the next day; chloroform exasperated them; and they became less violent only for a few moments, after the patient had lost about a pound of blood through the wound made by the venesection, which had opened again; but soon they returned with greater intensity; tetanic convulsions and opisthotonos supervened, and the patient expired half an hour later. He had preserved the full power of his intellectual functions until tetanus came on.

On autopsy, a very slight swelling of the base of the tongue was discovered; the pharynx was in a healthy condition; some pulmonary hypostasis, and two hemorrhagic suffusions in the mucous membrane of the stomach were found. All the other organs, the spinal marrow included, presented no alteration. The blood was black, liquid, and diffuent.

Dr. Henrich assured himself, by the most careful inquiries, that the patient had never been bitten by a dog, either mad or healthy, and that he did not believe himself at all attacked by hydrophobia. For three weeks previous, however, he was in low spirits, and without being otherwise sick, had a presentiment of his approaching death, as he said. He indulged, however, in excessive coitus, (he was married and kept two mistresses), and was troubled with grief and sorrow. To these two causes combined, the appearance of the terrible malady may be attributable.—(*Henke's Zeitschrift für Staatsarzneikunde*, 1858, p. 361).

This case, which belongs to the third class of spontaneous hydrophobia of M. Chomel, (*Dict. de Méd.*, tome xv. 1837), is, among all the published cases, one of the most characteristic. Cases of similar kind have been reported by MM. Ely, Burgreave, (*Gaz. des Hôpitaux*, 1854), Lessmann, (*Preuss. Vereinszeitung*, 1854), Bulley, (*Assoc. Med. Journ.*, 1854, Nov. 11), and Putegnat, (*Journ. de Méd. de Bruxelles*, June, 1853).—(*Gazette Hebdomad.*, 1858, 40).—[*North American Med. Chir. Review*.

Successful Case of Amussat's Operation for Artificial Anus.

A CASE now under Mr. Hutchinson's care as an out-patient of the Metropolitan Free Hospital, affords an interesting illustration of the occasional value of Amussat's operation. The bowels had been obstinately constipated for three weeks and eleven days; in spite of the use of free enemata, neither feces nor flatus had been got away. The obstruction was caused by the pressure of a large malignant tumour which completely filled the upper part of the pelvis. The abdomen was greatly distended, and the pain and vomiting were almost incessant. The patient being evidently about to sink, Mr. Hutchinson determined to open the colon in the left loin. This was done with-

out wound of the peritoneum, and a large utensil full of fluid feces escaped at the time. An artificial anus was established, through which ever since the bowels have been freely relieved. More than a month has now elapsed since the operation. The malignant tumour continues to grow rapidly, and will before long cause the patient's death. It is worth mention, that the inconvenience caused by the anus in the loin has been very trivial, a poultice over the part being found quite sufficient to prevent the incontinent escape of gas or fecal matters. If proof of the need which existed for another mode of relief, is the fact that neither flatus nor feces have passed by the rectum since the operation. The same case is of much interest as an instance of a return of cancer in the pelvis after ovariectomy. Probably not fewer than between three and four hundred ovariectomy operations have now been performed, and as far as we are aware no other instance of the return of cancer afterwards has yet been recorded. The patient made a good recovery after the extirpation of the ovarian cyst, and regained her health and strength. Within three months, however, there were evidences of a solid pelvic tumour, which afterwards grew rapidly.—[*Med. T. & Gaz.*

Some Experimental Researches on the Effects of Cold on the Human Body. By MM. THOLOZAN and BROWN-SEQUARD.

A SERIES of researches permits the authors to draw up the following propositions:—1. If our extremities are exposed to the action of cold water, they can in a very short time lose a considerable portion of their temperature, (according to our experiments, from ten to eighteen degrees). 2. After an extremity has lost much of its temperature, (from ten to eighteen degrees), it does not regain it before the end of forty-five minutes or an hour in an atmosphere varying from twelve to eighteen degrees. 3. Contrary to the opinion of Edwards, the lowering of the temperature of a small part of the human body has no sensible influence upon the general temperature. 4. The lowering of the temperature of one hand can produce considerable falling of the temperature of the other, without the general temperature of the body being sensibly diminished.

Dr. Brown-Séquard has ascertained that the latter phenomenon becomes more marked if the immersed hand is the seat of more intense pain, and if the temperature of the air in which the other hand is kept is less elevated; it is also proportional to the contraction of the vessels of the hand not immersed, and it is this contraction exclusively which produces the falling of the temperature. This phenomenon is an example of reflex action upon the blood-vessels, their muscles contracting under the in-

fluence of an irritation applied to the sensitive nerves of another extremity; it is further remarkable, that this reflex action takes place only between homologous parts, and that the immersion of the hand, for instance, into cold water, exercises no appreciable influence upon the temperature of the feet.—[*Journal de la Physiologie*, and *North American Med. Chir. Review*.]

The Metallic Seton.

As wire is replacing silk and other organic materials for sutures, so it is likely to be used in cases where a seton is used for the purpose of setting up inflammation in serous sacs. Dr. Simpson has used the wire seton with success in hydrocele, and his practice has been followed in London by Mr. Spencer Wells. The first case in which he tried it was one of hydrocele of the round ligament in an out-patient at the Samaritan Hospital. The cyst was of the size of a small orange. It had existed several years, and had been mistaken for hernia. Mr. Wells tapped it the first day the woman applied, and evacuated more than an ounce of clear serum. It filled again in a few days, and he then passed an iron wire through it by means of a common needle, and fastened it loosely in a loop. The fluid drained off, adhesive inflammation was set up, and the wire removed on the third day. The tumour remained quite solid for a few days afterwards, but has gradually disappeared, and the cure appears to be complete. Two other cases, one of a cyst in the neck connected with the thyroid gland, and the other a mammary cyst, have been treated in the same way, and are going on satisfactorily. This mode of treatment is simpler and safer than the injection of iodine, and will probably prove equally or more effectual.—[*Med. Times and Gazette*.]

On Rheumatism of the Diaphragm. By Dr. CHENEVIER.

AFTER reporting several cases of this disease, the author gives the following description of it:—The disease commences with a sudden pain at the points of attachment of the diaphragm, which produces a feeling of constriction at the base of the thorax, but is not augmented on pressure. Deep inspirations are impossible, and respiration is carried on only by the superior ribs. Percussion is normal, and auscultation does not reveal any change in the respiratory murmur, which is only somewhat weaker at the base of the thorax; there is no cough; sometimes, however, a painful hiccough. The abdominal organs offer no symptom of disease. The attack lasts from one to eight hours, and disappears then without leaving any trace. The prognosis is favorable. Rheumatism of the diaphragm is easily distinguished from

inflammatory diseases of the lungs by the absence of the symptoms of the latter. It could only be mistaken for a neuralgic affection of neighboring organs, as, for instance, intercostal neuralgia; but it is sufficiently distinguished from it by the pain being felt particularly in the three characteristic points, while in the neuralgia just mentioned it is confined to one side. From angina pectoris it is distinguished by the peculiarity that the pain proceeds in this malady from the sternum and radiates on one side to the arm. In nervous asthma, which also commences with sudden difficulty of breathing, the peculiar feeling of constriction as well as the confinement of the respiratory movements to the superior ribs, is not noticed; the two latter symptoms are pathognomonic of rheumatism of the diaphragm.

The treatment of the disease consists in the application of cups, mustard poultices, anodyne embrocations, and chloroform; if it is obstinate, the endermic application of morphia will be useful.—[*Gazette des Hôpitaux*, and *North Amer. Med. Chir. Rev.*

EDITORIAL AND MISCELLANEOUS.

FOR THE MEMBERS OF THE MEDICAL SOCIETY OF THE STATE OF GEORGIA.

At the last annual meeting of the Medical Society of the State of Georgia, held at Madison, it was determined by a vote of the Society, "that all the Medical Journals in the State be requested to publish the Constitution, &c., in their columns." This request we cheerfully acceded to at the time, and we now, in accordance with our agreement, present the several articles of the Constitution, at a time when they may be most useful to the members of the Society. The Roll of members would be very properly here recorded, but as this may require careful revision, on account of deaths, removals, and resignations of members, we defer its publication for the present.

The Medical Society of the State of Georgia had its origin in the manner we find recorded in a pamphlet containing the Proceedings of the State Medical Convention:—"In pursuance of a call from the Medical College of the State of Georgia, [Augusta,] and the Georgia Medical Society of Savannah, addressed to the Practitioners of Medicine throughout the State, they assembled in Convention, in the city of Macon, on Tuesday, the 20th of March, 1849."

This Convention was temporarily organized by calling Dr. Thomas Hoxey, of Columbus, to the Chair, and appointing Dr. S. W. Burney, of Monroe Co., Secretary. When, on motion of Dr. R. D. Arnold, of Savannah, the members presented their names, it was found that thirty-one

Counties were represented—viz: Baker, Baldwin, Bibb, Burke, Chatham, Clark, Cobb, Crawford, Dooley, Fayette, Floyd, Gwinnett, Henry, Houston, Jasper, Jones, Lee, Madison, Merriwether, Monroe, Morgan, Muscogee, Oglethorpe, Pike, Richmond, Stewart, Sumter, Troup, Twiggs, Upson and Washington.

“On motion of Dr. J. M. Green, the Chairman appointed a Committee consisting of one from each county represented, to nominate officers for the permanent organization of the Convention.

The Committee retired, and upon returning, reported through its Chairman the following, viz:

Lewis D. Ford, M. D., of Augusta, President; R. D. Arnold, M. D., of Savannah, 1st Vice-President; T. R. Lamar, M. D., of Macon, 2nd Vice-President; James M. Green, M. D. and C. T. Quintard, M. D., of Macon, Secretaries.

Dr. Arnold moved the appointment of a Committee to draft a Constitution and By-Laws for the permanent organization of a State Medical Society, which being carried, the President of the Convention accordingly designated the following:

Dr. R. D. Arnold, of Chatham; Dr. J. M. Green, of Bibb; Dr. Thomas Hoxey, of Muscogee; Dr. Charles West, of Houston; Dr. H. J. Ogleby, of Morgan; Dr. R. Q. Dickenson, of Baker, and Dr. Gordon, of Gwinnett.

At the second session of the Convention, the Committee appointed to draft a Constitution and By-Laws announced, through their Chairman, that they were prepared to report. The Report of the Committee was received, the Articles discussed and acted on separately, and finally unanimously adopted.

Dr. Charles Thompson, of Macon, then presented the following:

Resolved, That the Convention do now resolve itself into “*The Medical Society of the State of Georgia*,” and that the officers of the Convention continue to act as officers of the Society until an election can be had.

This being adopted, the members prepared ballots—upon counting of which, it appeared that the following gentlemen were elected:

Lewis D. Ford, M. D., of Augusta, President; R. D. Arnold, M. D., of Savannah, 1st Vice-President; Thomas R. Lamar, M. D., of Macon, 2nd Vice-President; James M. Green, M. D., of Macon, Corresponding Secretary; Charles T. Quintard, M. D., of Macon, Recording Secretary; S. W. Burney, M. D., of Monroe county, Treasurer.

Having thus presented a brief abstract of the early history of the Medical Society of the State of Georgia, as we have been able to condense it from the minutes of the preliminary Convention of 1849, we herewith furnish our readers, and the members of the Society, with the

Constitution and By-Laws which have governed its deliberations in its various meetings, from the year 1849, to the present time.

Constitution of the Medical Society of the State of Georgia, adopted March 20th, 1849.

ARTICLE I.—*Title of the Society.*

The name and style of the Society shall be "*The Medical Society of the State of Georgia.*"

ARTICLE II.—*Objects of the Society.*

The objects of this Society shall be the advancement of Medical knowledge—the elevation of professional character—the protection of the interests of its members—the extension of the bounds of Medical Science, and the promotion of all measures adapted to relieve suffering humanity and to protect the lives and improve the health of the community.

ARTICLE III.—*Members of the Society.* -

SEC. 1. The Society shall consist of every person now present as a member of the State Medical Convention, who is a graduate of a respectable Medical College, or who may be authorized to practise by the legislative act of 1839, re-constituting the Medical Board of the State, and who shall conform to the regulations of the Society.

SEC. 2. Any Member of the Profession, thus qualified, can hereafter, on written application to the Society, through the Corresponding Secretary, be admitted to it by a vote of two-thirds of the members present.

ARTICLE IV.—*Of the Officers.*

SEC. 1. The Officers of the Society shall be a President, two Vice-Presidents, a Corresponding and a Recording Secretary, and a Treasurer.

SEC. 2. Each officer shall be elected annually, by ballot, on a general ticket, and shall serve for one year, or until another be elected to succeed him.

ARTICLE V.—*Duties of Officers.*

SEC. 1. The President shall preside at the meetings, preserve order, and perform such other duties as custom and parliamentary usage may require. He shall not be eligible two terms in succession.

SEC. 2. The Vice-Presidents, when called upon, shall assist the President in the performance of his duties, and during the absence of, or at the request of the President, one of them shall officiate in his place.

SEC. 3. The Corresponding Secretary shall conduct the correspondence and perform such other duties as usually appertain to that office.

SEC. 4. The Recording Secretary shall keep correct minutes of the proceedings, and when approved, shall fairly transcribe the same in a book to be kept for that purpose. He shall have charge of all papers belonging to the Society, other than those appertaining to the Treasurer and Corresponding Secretary, and give due notice of the annual meetings.

SEC. 5. The Treasurer shall receive all monies belonging to the Society, and disburse them as directed, preserving vouchers for the same. He shall annually present a statement of the finances of the Society, which shall be referred to a committee to be audited.

ARTICLE VI.—*Of Auxiliary Societies.*

SEC. 1. The members of the Profession in any county, or in any two or more adjacent counties, where there is not a sufficient number in one county, in this State, who desire so to do, may form themselves into an Auxiliary Society: *Provided*, that public notice of the proposed meeting be given, and that all the regular members of the profession in said county or counties be invited to join therein; and said Society may adopt rules for their government, provided the same do not contravene those of the State Society—may elect officers, and do all such acts as may be necessary to carry out the objects of their association.

SEC. 2. No one shall be admitted a member of an Auxiliary Society, unless he is either a graduate in Medicine, of some respectable Medical School, or has a license to practise from the Medical Board of Georgia, or is recognised as a practitioner by the act reviving that body, passed in 1839; and who, moreover, is in good moral and professional standing in the place where he resides, and is a regular practitioner.

SEC. 3. Any physician who shall procure a patent for a remedy, or instrument of surgery, or who uses in his practice any secret remedy or nostrum, or who shall hereafter give a certificate in favor of such instrument or remedy, shall be disqualified from becoming a member of an Auxiliary Society, and consequently of the State Society.

SEC. 4. As soon as an Auxiliary Society is organized, the Secretary thereof shall transmit to the Corresponding Secretary of the State Society, a copy of their rules and regulations, with the names of the officers and members.

SEC. 5. Every Auxiliary Society shall enforce the observance, by its members, of the Code of Ethics adopted by the State Society; and they shall be authorised to censure or expel any member convicted of violating its provisions.

SEC. 6. The Auxiliary Societies shall report annually to the State Society a list of their members and officers, any new rules they may adopt, and such other matters as they may deem interesting.

SEC. 7. The Auxiliary Societies shall hold, at least, two meetings in every year.

ARTICLE VII.—*Meetings of the Society.*

SEC. 1. The Society shall hold an Annual Meeting on the second Wednesday in the month of April of each year.

SEC. 2. The place of meeting shall be determined, for each succeeding year, by a vote of the Society.

ARTICLE VIII.—*Of the Funds.*

Means for defraying the expenses of the annual meetings, and current expenses of the Society, may be raised by an annual assessment on its members, of not more than two dollars each.

ARTICLE IX.—*Code of Ethics.*

This Society adopts, as a part of its regulations, the Code of Ethics of the American Medical Association.

ARTICLE X.—*Alterations.*

No alteration or amendment of this Constitution shall be made, unless it receives the vote of two-thirds of the members present.

BY-LAWS.—*Order of Business.*

1st. The President, or, in his absence, one of the Vice-Presidents, shall call to order; in case of the absence of all these officers, a Chairman *pro tem.* shall be appointed for that purpose.

2nd. Calling the roll of members.

3rd. Reading of the minutes.

4th. Election of Officers, and Delegates to the American Medical Association.

5th. Any business which requires early consideration may be introduced.

6th. Reports from Auxiliary Societies.

7th. The correspondence shall be read by the Corresponding Secretary.

8th. Written communications may be discussed.

9th. Oral communications may be made and discussed.

10th. Resolutions introducing new business.

11th. Selection of a place for the next meeting.

12th. Miscellaneous business.

There can be little doubt, that much of the misunderstanding and difficulties between Physicians arise from the fact that the established ethics of our profession, on many points, are not generally known. They cannot be too often repeated. They are founded in principles of propriety and right. They are the true test and standard by which to direct our own conduct, and to judge the conduct of our fellows; and the man who does not come up fully, squarely and openly, to the requirements of that code, in his dealings, both with patients and physicians, it is neither harsh nor uncharitable to pronounce his conduct as unprofessional. How important, then, is it that these principles be kept ever before the Profession.

In future successive numbers of this Journal, we will take pleasure in presenting to our readers, and to the members of the Society, the *Code of Ethics* of the American Medical Association, which has been adopted by the Medical Society of the State of Georgia, as their rule of conduct in matters pertaining both to professional intercourse among themselves, and to their relation to the community at large.

Respectfully,

HENRY F. CAMPBELL.

ROBERT CAMPBELL.

Transactions of the American Medical Association, vol. xi., 1858. Prof. F. GURNEY SMITH, Chairman Committee on Publication. Philadelphia: Collins, printer. 1858.

The present volume of this important work—the embodiment of the labors of the Association during the past year—fully equals in size and in value, any previous volume of the Transactions. Between its covers, the Association presents to the Medical profession of the world, ten hun.

dred and twenty-seven pages, embracing a series of reports which discuss, with more or less ability, a number and a variety of some of the most important and interesting subjects, which can engage the attention of scientific men in all countries.

Besides the minutes of the eleventh meeting, the reports of various business committees, the plan of organization, code of ethics, and list of officers and permanent members, the volume contains a number of papers, which give to it a scientific interest, unsurpassed by that of any previous volume, and some of which are well calculated to advance the position of American Medicine wherever they may be read.

1st. The annual address of the President, Prof. Paul F. Eve, which has already been presented to our readers, is a paper of great interest, and highly creditable to its distinguished author. In this address, the entire work of the Association has been reviewed, and its usefulness, in the advancement of American Medicine, ably vindicated. This is just such a paper as should appear at the end of the first decade of the Association, to record the results which its labors had accomplished. pp. 10.

2nd. Report on the Medical Topography and Epidemic Diseases of Kentucky, by W. L. Sutton, M.D., of Georgetown, Ky.—embracing 88 pages.

3rd. Report on the Topography and Epidemic Diseases of New Jersey, and the Treatment thereof, by Leyden A. Smith, M.D.,—contained in 10 pages.

4th. Report of the Committee on the Epidemic Diseases of Ohio, by George Mendenhall, M.D.

Each of these reports is marked by much ability, and will be found useful as statistical records for future reference.

5th. Report of the Committee on Medical Literature, by A. B. Palmer, M.D.

In this paper, Dr. Palmer gives a comprehensive, though compendious review of most of the American publications and American reprints of foreign works. His criticisms appears to be just and judicious, and the entire report is characterized by great elegance of diction and fervor of sentiment; it is a useful, though by no means, a complete bibliography of American medical literature for the few past years, and does credit to the reporter. It occupies a space of about 60 pages in the volume.

6th. Report of the Special Committee on Medical Education, by James R. Wood, M.D., of New York—11 pages.

"Among the leading objects," says the reporter "of the American Medical Association, since its organization, has been the elevation of the standard of Medical education. Every member of this body, fully impressed with the greatness and dignity of his calling, has deplored the

inferior qualifications of vast numbers of those who annually enter the ranks of the profession, and has naturally sought to remedy the evil."

Thus, deeply impressed with the importance of his subject, Dr. Wood considers fairly and impartially, we think, the various elements which enter into the process of Medical education in this country, and discusses modestly, and with great moderation, the objectionable features in our system, under the five following heads: 1st, Primary Medical Schools; 2ndly, The number of Professorships in Medical Colleges; 3rdly, The length and number of terms during the year; 4thly, The requisite qualifications for graduation; and, 5thly, Such other subjects as are to give uniformity to our Medical systems.

In conclusion, Dr. Wood very properly refers the responsibility of all proposed changes in our system of Medical education, to the entire corps of Medical Colleges from every part of our country, by calling a convention of delegates from the various Medical Schools, in which every interest may be fully and fairly represented.

"In order to give our Medical Colleges," thus concludes the report, "an opportunity to consider the recommendations here advanced, and that this body may have the advantage of their wisdom and their mature views, before any definite action is taken upon them, your committee submits to the Association the following resolutions:

"*Resolved*, That the several Medical Colleges of the United States be requested to send delegates to a Convention, to be held at —, on the — day of —, for the purpose of devising a uniform system of Medical education.

"*Resolved*, That the present Report of the Special Committee on Medical Education be referred to such Convention for its consideration.

"*Resolved*, That said Convention of Delegates, from the several Colleges of the United States, be requested to submit to the meeting of this Association, in May, 1859, the result of their deliberations."

By reference to the minutes of the last meeting of the Association, we find that the blanks, left in Dr. Wood's first resolution, were filled by the appointment of a definite day and place of meeting.

Dr. Frank H. Hamilton, of New York, from the Committee on Delegates from Medical Colleges, reported the following:

"*Resolved*, That we recommend to all the Medical Colleges, entitled to a representation in this body, that they appoint Delegates especially instructed to represent them, in a meeting to be held at *Louisville, on Monday, the day immediately preceding the convention of the American Medical Association for the year 1859, at ten o'clock in the morning, at such place as the Committee of Arrangements shall designate.*"

The above is a very important meeting. There should be a full representation of the Schools, in order that the determinations of the Con-

vention may be the result of the mature deliberation of those most interested in the subject of Medical education. Inconvenient and unsatisfactory recommendations might, otherwise, be presented, with which many Colleges would find it impossible to comply. We hope each School will have its delegate present, to assist in deliberations so nearly affecting the interests of the entire sisterhood.

7th. Report on Spontaneous Umbilical Hæmorrhage of the Newly-born, by J. Foster Jenkins, M.D., of Yonkers, N. Y., pp. 47.

This is a most valuable report on a disease of acknowledged obscurity, both as to its causes and best method of treatment. Dr. Jenkins' paper is by far the best and most thorough examination of the subject we have ever met. It would make a very useful monograph for practitioners.

8th. Report on the Influence of Marriages of Consanguinity upon Offspring, by S. M. Bemiss, M.D., of Louisville, Ky.

Dr. Bemiss enters at once into the very midst of his subject, by bringing it, in all its important bearings before the reader, in his very first paragraph. "Is the offspring of marriages of consanguinity equal physically and mentally to the offspring of parents not connected by ties of blood—both classes being supposed to be similarly circumstanced in respect to all other causes affecting the integrity of their issue?"

This report occupies over one hundred pages of the present volume, not over fifteen of which are devoted to the discussion of the subject; all the rest, statistics, collected from the various States of the Union. The author seems more inclined to let the "facts," as presented in his valuable tables, "speak for him," than to enter into a protracted disquisition. Such statistics will hereafter be found very valuable in the further examination of this very important, though delicate subject. Dr. Bemiss deserves the thanks of the profession for this very able report, and the faithfulness shown by him, in collecting, arranging, and properly presenting the facts, is worthy of our highest commendation. His tabulations are made from over eight hundred and seventy observations of marriages of consanguinity, in various degrees of relationship.

9th. Report on the Functions of the Cerebellum, by E. Andrews, M.D., of Chicago, Ill.

In this report, the cerebellum is examined transcendently with a view to arrive at its function through its anatomy. We may infer, that the author at some future time will consider the results of experiment, and of the effects of disease as illustrating the functions of this often discussed, and as yet, still mysterious portion of the encephalon. The text is illustrated by wood-cuts, presenting in a gradually descending scale, the encephalons of the vertebrate division from that of man to that of the turtle. 16 pages.

In addition to the Reports which we have thus hastily referred to, there are the following which shall receive attention in our next number:—1. Report on the Treatment best adapted to each Variety of Cataract, by Mark Stephenson, M.D., of New York—pp. 22. 2. Report on the Medical Jurisprudence of Insanity, by C. B. Coventry, M.D., of Utica, N. Y.—pp. 50. 3. Report on the Law of Registration of Births, Marriages and Deaths, by Edward Jarvis, M.D., of Dorchester, Mass.—pp. 20. 4. Report on the Nervous System in Febrile Diseases and the Classification of Fevers by the Nervous System, by Henry F. Campbell, A.M., M.D., of Augusta, Ga.—pp. 170. 5. Report on Moral Insanity in its Relations to Medical Jurisprudence, by D. Meredith Reese, M.D., LL.D., of New York—26 pages. 6. Report on Stomatis Materna, by D. L. McGugin, A.M., M.D., of Keokuk, Iowa—pp. 30. 7. Report on the True Position and Value of Operative Surgery as a Therapeutic Agent, by J. B. Flint, M.D., of Louisville, Ky.—pp. 18. 8. A Method for Preserving Membranous Pathological Specimens, by R. D. Arnold, M.D., of Savannah, Ga. 9. Letter from E. D. Fenner, M.D., to President of Association. 10 and 11, the two Prize Essays:

First, The Clinical Study of the Heart Sounds in Health and Disease, by Austin Flint, M.D., of Buffalo, N. Y.—pp. 52. Second, Vision, and some of its Anomalies, as revealed by the Ophthalmoscope, by Montrose A. Pallen, M.D., of St. Louis, Mo.—pp. 65.

We regret that time and space are not sufficient for us to notice the above in our present number.

The present volume of the Transactions fully equals in style and typographical execution that of any of its predecessors; great praise is due to the indefatigable Committee of Publication, for the correctness and promptness with which they have produced and distributed so large a work in so short a time. Their work was much retarded, waiting for proof-sheets sent to distant reporters. When such has been the cause of delay, it is certainly surprising that it had not been more protracted.

BOOKS AND PAMPHLETS.—On account of the large space already occupied by our Original and Editorial Departments in the present number, we have been obliged to defer the notices of several books, pamphlets and new journals, until our next issue.

SCRAPS OF PRACTICE.

Headache and its Remedies.—How much, within a few years, has medical opinion changed in regard to the causes of headache, and *pari passu*, in relation to the remedies suitable for its relief. Time was, when the term “headache” conveyed more or less indefinitely the idea of some affection

of the brain, or its membranes, of an inflammatory or congestive character, and neither opiates, nor quinine, nor stimulants were, for a moment, considered admissible. Even at the present day, there are many in some regions of our country, who regard both quinine and opium as contra-indicated in these cases. Such is not our experience. Headache is promptly relieved, in most individuals, by small doses of the sulphate of morphine—say, one quarter of a grain. There are others—an unfortunate class—whose idiosyncrasies forbid the use of any opiate whatever; these, of course, must forego this remedy. Quinine, in a single dose of 5 to 10 grains, will often be found to ward off an attack of headache, if taken at its beginning, and sometimes, to dispel it entirely, even when fully established. We have never known quinine to increase headache, or when given in very large doses, ever to produce it—though this is the current impression, long observation has convinced us that it is a mistaken one. We know several martyrs to this disagreeable affection, who habitually take a few grains of quinine every morning with their breakfast coffee, and continue the practice for months at a time, with the best results. The effect of quinine, we admit, is to modify the sensations about the head; but seldom or never does this modification assume the form of pain. In the vast majority of cases the quinine will relieve it. When the headache is intermittent, the effect of course is even more marked. Quinine is, in our opinion, always a safe remedy in headache; if we even apprehended inflammation of the brain or its membranes, we would give quinine *the more freely* as a most reliable means for its prevention.

Sick Headache is a term which, unfortunately, too many understand, from an experimental knowledge. In this form, there seems to be an intimate relation between the nerves of the stomach (pneumogastric) and those of the head (trifacial, etc.). The cause may begin, it appears to us, either at the head as from exposure to cold, or it, as most frequently, may begin in the stomach, as from improper diet or the spontaneous vitiation of the secretions, generally giving rise to a superabundance of acid there: at whichever point the *cause* may operate, the *effect* is the same; both the head and the stomach become affected, the one with pain in the frontal occipital and temporal nerves, the other, with nausea of the most distressing kind—truly, “the whole head is sick, the whole heart faint.” Where the cause is operating from the nerves of the head as from exposure to cold, we have found moderate, though decided doses of some opiate with perhaps a foot-bath, to be the best remedy. When, however, the cause begins to operate in the stomach, impressing the sentient nerves of the head with the painful reflex sensation through the pneumogastric, we find it best, first, to correct that condition of the se-

cretions, whatever it may be. Now, to do this, something more appears to be necessary than simply to *correct acidity*. Some *stimulant* is required; we have recommended small doses of brandy with bicarbonate of soda; champagne will sometimes relieve both the headache and the nausea: coffee very often does. The following, however, is one of the most reliable remedies for headache, arising from this condition of the stomach, which we have ever used; we commend it to all who are troubled, whether as medical attendants or sufferers, with this most distressing of all the forms of headache:

R. Of Bicarbonate of Soda.....	3ij.
“ Chloric Æther,.....	ʒss.
“ Camphor Water.....	ʒiiss.

Mix. Dose, one tablespoonful, every two or three hours, with a little water.

The above are some of the principal remedies for headache, though the means for its relief in particular cases must, of course, vary with the special cause and condition of the system from which it arises.—H. F. C.

Diuretics.—New medicines are not, by any means, always the most reliable. This remark applies very particularly to Diuretics. Every day we find new diuretics suggested, and their efficacy lauded in the journals: we are naturally induced to try them, and often to the neglect—even, sometimes to the entire forgetfulness of the older, better established and more reliable ones, which we only have recourse to, when the fashionable article has disappointed our expectations. In several recent cases of anasarca, this was our own mortifying experience. After trying some of the latest and most lauded diuretics, both simple and compound, we met the remark, in Todd's Lectures on the Urinary Organs, that Bitartrate of Potash (Cream of Tartar) is, after all, the most reliable diuretic. All our old experience with the remedy, in former times, arose up before us, and we tried it with more satisfactory success than any of the others. The mode of administration is one teaspoonful three times a-day, either as a powder in molasses, or in the form of a sweetened acidulated drink. About once a week, in obstinate cases, we add 20 grs. of pulverized Jalap to the morning dose, to produce gentle purgation from the bowels.

Moral.—Try that which is new, if it *promises* well, but by no means, neglect that which has *proved* itself good, though it may be ever so old.

H. F. C.

Tartrate of Iron and Potash in Phagedenic Ulcer.—M. Ricord, of Paris, recommends this salt very highly in certain forms of syphilis. We have used it frequently with truly surprising results. We now re-

call to mind a case in which a very large ulcer threatened to destroy the glans penis: the young man was brought very low by exhausting hemorrhages, and the ulcer was rapidly progressing; in consultation with his attending physician, we advised from 5 to 10 grains tartrate of iron and potash, three times a day, with a strong solution of the same kept constantly applied to the affected part, on lint. The bleeding was soon arrested, and the deep ulcer filled up with wonderful rapidity. We have used the remedy many times since, and we are always pleased with its effects in similar cases.—H. F. C.

On the Inhalation of Cinchonia and its Salts. Read before the Biological Department of the Academy of Natural Sciences, December, 1858, By S. W. MITCHELL, M. D., of Philadelphia.

HOWEVER it may be regarded in other regions, to the Southern Practitioner, the following proposition for the administration of the preparations of the great anti-periodic, by inhalation, will appear as a very happy one, and its successful accomplishment, as a most important desideratum. How often are we called to patients in the initial stage of a "congestive chill," when the introduction of Quinine into his system, by any means whatever, appears to be his only chance of life, and yet, to our horror, neither the stomach nor the rectum, will tolerate it; and if they did, the action from these surfaces is too slow to be available. As the author truly remarks, "the passage to the blood, through the lungs, seems to be always an open track;" can we dare to hope, that the proposition here contained may some day, be so far perfected in its application as that the effect of Quinine may be as instantly produced upon the system, by inhalation, as we find Chloroform, and the various Æthers affecting the system. When that day arrives, we can truly say that no case of malarial fever, however complicated with nausea and diarrhoea, will resist the curative efforts of our art. We wish Dr. Mitchell every success in these very important investigations.—[EDTS. S. M. & S. JOUR.

There can be very little doubt that at some future time we shall possess the means of giving to patients many potent remedies in the form of inhalation, rather than in the usual way. This is at least among the hopes of the therapist of the present day. Absorption of medicinal substances by the intestinal mucous surface is but too often uncertain, while the passage to the blood, through the lungs, seems to be always an open track, when the agent inhaled is in a state of vapor. *How* desirable it would be to possess the means of inhaling quinine in the congestive fevers of our malarious districts, we can very well conceive. Guided by these ideas, I have sought industriously for some means of attaining this result, and although I have failed, as I shall here show, in evolving any very marked practical benefit from these researches, I have

met with certain facts of such interest that I desire to put them on record as indicating a novel direction for medical thought and action.

At one time, the analogy in chemical composition, between certain of the newly formed ethers and quinia itself, seemed to point out these as fit subjects for therapeutic use and trial. The difficulty of procuring them, obliged me, however, to relinquish effort in this direction, and I turned from them to examine anew the alkaloids derived from cinchona bark. While thus engaged, one of my friends, now Dr. Bill, of the army, pointed out to me in Fresenius's Chemistry, his account of cinchonina, which he describes as volatile at high temperatures.

Struck with this, I searched carefully for any account of its inhalation, but as yet have been unable to find in the books on Cinchona any description of inhalation, as a mode of using the alkaloid in question. The last complete work on quinia, by M. Briquet, enumerates many methods of employing the alkaloids and bark, but neither among the means in use, or out of use, is this one alluded to. Occasionally, in disease of the lungs or throat, inhalation of pulverized cinchona bark has been resorted to, and M. Briquet relates,—“*Traité Thérapeutique du Quinquina et de ses préparations*,” p. 118,—that those who work in the storehouses of cinchona bark are sometimes thus cured of malarious fevers. This could only occur through accidental ingestion, and inhalation of the floating particles of bark.

Cinchonia and its salts are the only alkaloids which appear to be volatile by heat. After many experiments, I have finally resorted to the following very simple method of inhaling them:—About forty grains of pure cinchonia, being mixed up with sand, and placed in a capsule, and heated by a spirit-lamp. The sand is useful in diffusing the heat, and preventing too rapid a destruction of the alkaloid. A heat of about 300 degrees melts the particles of cinchonia into a brown fluid, and from this, if the evaporation be carefully managed, the volatilized alkaloid escapes in the form of a gray vapor.

When a microscope glass is held over the capsule, and the heat is too elevated, the cinchonia decomposes, and a dark red gummy-matter, with the odor of burned benzoin, adheres to the glass. A rather lower temperature drives off the cinchonia in a gray vapor, which may be made to re-deposit the pure alkaloid upon the interior of a funnel held over it, or upon a microscope slide. The alkaloid thus obtained is in branching needles.

On a number of occasions, I inhaled the vapors of cinchonia, often breathing them for ten or twenty minutes, without much inconvenience, when care was taken to regulate the supply of heat. The brown or reddish volatile substance which is given off when the heat used is too great, so irritates the throat as to cause nausea, and oblige the patient to cease inhaling.

When carefully inhaled, a part of the alkaloid is deposited on the throat and in the mouth, where its sub-bitter taste is soon perceived. To guard against error, which might arise from swallowing these portions of the alkaloid, I refrained from swallowing whilst inhaling, and frequently rinsed the throat with water.

Upon four occasions, I noted the symptoms caused by the cinchonia

thus employed, taking care to allow the excitement of the system produced by the inhalation to pass away before I counted the pulse. In three instances the pulse *fell*, losing from six to ten beats per minute. In the fourth, the pulse remained a few beats above the normal number. The person on whom these experiments were made is liable to still greater depression of cardiac energy, when under the influence of quinia. At first, it was difficult to separate the ordinary signs of cinchonism from the feelings of cerebral confusion, caused by breathing too rapidly. These sensations, however, were evanescent. At the end of a quarter of an hour, or even less, the head was clear, and within half an hour afterwards the patient felt a quickly increasing headache, with giddiness, and sometimes a feeling as though the brain was swelling into monstrous bulk. These sensations passed away within four or five hours, unless the inhalation was renewed.

Still uncertain as to whether or not the alkaloid entered the blood, I caused a healthy adult, æt. twenty-nine years, to inhale the fumes from forty grains of the heated cinchonia four times in one day. Symptoms of cinchonism were felt only after the first inhalation, which was made at ten A.M.; at twelve M., the second inhalation took place, and at the same time four ounces of clear urine, sp. gr. 1023, were passed. The other inhalations occurred in the afternoon and evening, but none other of the urine passed was saved, until 7 A.M. next day.

The first specimen was examined by Bouchardat's test, the iodated iodide of potassium. This reagent gave a faint but decisive brown precipitate of iodide of cinchonia, when employed in the usual way; when, however, I placed in a test tube a portion of the test solution, and slowly poured upon it the lighter wine, a profuse deposit of the iodide announced the presence of cinchonia in the urine. In the usual mode of making this test—although the precipitate is perceptible enough—it almost immediately redissolves in the urine, which appears to possess a remarkable power of dissolving the iodides of cinchonia and quinia, since when these precipitates are thrown down from an aqueous solution of a salt of either alkaloid, they are found to be very insoluble. The second specimen of urine contained only traces of cinchonia, and twenty-four hours after the last inhalation no evidence of the presence of the alkaloid in the urine could in any way be obtained.

It will be readily seen from what I have said, that I do not anticipate any remarkably valuable practical results from the new mode of administering cinchonia in vapor. The want of the therapeutic power in this alkaloid, when compared with quinia—dose for dose—the difficulty of regulating the heat so as to volatilize, and yet not decompose it, as well as the unpleasantness of the process of inhalation, combine to deprive these experiments of any great practical utility. In a single case of tertian intermittent fever, I employed the inhalation of cinchonia vapor. The patient had no new attack for one month, although no other ulterior measures were employed. The case was a very irregular and uncertain one, and I therefore attach but little faith to this single therapeutic test. I should add that my patient complained a good deal of the effect of the alkaloid upon his glottis and larynx. For a time it altered the tones of his voice very considerably.

In two cases of chronic bronchitis, of long standing, I also used the fumes of cinchonia; one of these dated his first improvement from the use of these inhalations, in which he persisted every other day, for more than two weeks; no other treatment was used until he had been much aided by the means above described. He learned after a time to employ the cinchonia without my aid. The other patient submitted to one inhalation, but declined any further proceedings of a similar character, declaring that the remedy was worse than the disease, only shorter. When we are successful in volatilizing the alkaloid without decomposition, the process of inhalation is not very disagreeable; but when the heat is too high, and the cinchonia becomes altered, it is extremely difficult to continue to breathe it.

The salts of cinchonia are also volatile by heat, but they offer no advantages which do not equally belong to pure cinchonia. The sulphate is quite inadmissible for inhalation use, since sulphuretted gases are given off in small amounts when the heat is too elevated, and decomposition takes place.

The Treatment of Asthma.—We are sure that every physician will be deeply interested in whatever tends to advance our knowledge of that troublesome affection, asthma, and especially in respect to the remedial measures most likely to secure relief to those who are afflicted with it.

“In connection with this subject,” says the Boston Medical and Surgical Journal, “we take occasion to call attention to the instructive lectures of Trousseau, now being translated for the journal by Dr. Abbot, of this city.

We lately had the opportunity afforded us of reading a short treatise, translated from the Italian, upon the use of *compressed air* in the treatment of asthma. This agent has, we believe, been tried in New York city—possibly elsewhere in the United States—but we are not aware with what measure of success. To carry out the treatment, requires an apartment of cast iron, with the apparatus suitable to compress several volumes of atmospheric air into the room prepared for it. The *theory* seems excellent—we should be glad to know how extensively, and with what results this plan of *air-treatment* has been tried in this country. Any facts will be of advantage. We may add that the friend who lent us the little volume referred to, has a strong personal interest in knowing how much reliance can be placed upon this, or upon any treatment. Will those who happen to have heard of, or to have seen any experiments of this nature, with compressed air, favor us with an account of them?”

Ozonometer.—Dr. Lankester exhibited to the Chemical Section of the British Association for the Advancement of Science, at its late meeting in Leeds, an instrument for measuring the constant intensity of ozone. This instrument consisted of two small rollers included in a box, which were moved by means of ordinary clock-work. Over the roller a strip of paper, prepared with iodide of potassium and starch is allowed to revolve, the paper becoming exposed to the air for an inch of its surface

in the lid of the box. Twenty-four inches of paper pass over the rollers in the course of twenty-four hours, and thus registers, by its colour, the intensity of the action of ozone in the atmosphere. By this instrument, the intensity of the ozone for every hour in the twenty-four could be registered, and *minima and maxima*, with an average, ascertained. Dr. Lankester pointed out the importance of ascertaining the presence of ozone, on account of its undoubted relation to health. He drew attention to a series of tables which had been drawn up from the registrations of the anemometer made at London, Blackheath, and Felixstow, on the coast of Suffolk. From these it was seen that the relation of these three places was 0, 22, and 55. The instrument acted also as a clock, and the time could be accurately marked upon the ozonized paper.

Mr. Marshall made some remarks on his own observations during the last twelve months, and stated that he had not been able to discover, though assisted in the investigation by medical gentlemen, that there was any obvious connection between ozone and the state of health.

[*British Medical Journal*.

Sir Benjamin Brodie.—An unfounded report in one of the foreign periodicals soon gained currency that this distinguished member of our profession had been made a member of the House of Peers. This report has, however, served the purpose of awakening the medical men of London to the conviction that they are entitled to a representative in the Upper House, and they will, no doubt, take action upon the subject, and refer it to Lord Derby, who will give the question an impartial hearing. Without this advancement, Sir Benjamin Brodie now has a higher position than has ever before been held by a British surgeon, having been recently elected President of the Royal Society, and President of the Medical Council. We hope that he may attain this higher honor, to which his high scientific and literary attainments most certainly entitle him.—[*North-American Med. Chir. Review*.

Prizes at the Académie de Médecine, for 1858.—The Academy prize of one thousand francs, on the application of the microscope; the Capuron prize, on the death of the infant during parturition; the Civrieux prize, on the difference between neuralgia and neuritis; and the Barbier prize, for the cure of diseases generally thought incurable, have not been adjudged, on account of deficiency of memoirs, or insufficiency of merit.

M. Bauchet obtained the Portal prize, on the pathology, treatment, and diagnosis of ovarian cysts. The Itard prize, for the best work of two years standing, on practical medicine or applied therapeutics, has been adjudged to M. Duchenne. The Argenteuil prize of twelve thousand francs, on the greatest improvement in the treatment of stricture of the urethra or other diseases of the urinary organs, was not awarded to any one author, but was divided in sums varying from four thousand to one thousand francs among six competitors.—[*Ib*.

New Appointments at the Faculty of Medicine of Paris.—The Chair of Anatomy, rendered vacant by the retirement of M. Denonvilliers, has been filled by the appointment of M. Jarjavay. M. Gosselin succeeds M. Cloquet as Professor of Surgical Pathology.—[*Ib*.

SOUTHERN MEDICAL AND SURGICAL JOURNAL.

(NEW SERIES.)

Vol. XV.]

AUGUSTA, GEORGIA, MAY, 1869.

[No. 5.

ORIGINAL AND ECLECTIC.

ARTICLE XII.

An Essay on the Adaptation of Climate to the Consumptive, for a permanent residence; embracing an Examination of the climate of certain localities of frequent resort; and also, an Investigation of the degree of adaptedness of the Pacific Climates of the United States. Presented to the Medical Society of the State of Georgia, at its annual meeting, held at Atlanta, April 13th, 1859. By WILLIAM HENRY DOUGHTY, M. D., of Augusta, Ga. (Ordered to be printed.)

"As 'the possible is immense,' so the human mind, if the legitimate object of all science, (which is to observe facts and to trace their relations and sequences) is kept steadily in view, will be continually verging towards Truth in the investigation of physical causes."—FORRY.

GENERAL CONSIDERATIONS.

THOSE diseases, which, in a pathological point of view, seem to be the developing manifestations of an inherent constitutional diathesis (hereditary or acquired) have, as they eminently merit, received considerable attention at the hands of our noble profession. If it is necessary to adduce the proof of this, we have but to refer the sceptic to the history of pulmonary consumption. From the earliest and oldest records, we observe the great mind of the profession, as it is to-day, drawn out in the endeavor to comprehend its mysterious phenomena, to correctly appreciate its etiological relationship to things external and internal; and to diminish its uniform tendency to death.

It is perhaps impossible to form an adequate conception of the real merits of the subject, for the mind almost instinctively recoils, at the magnitude of the effort, which is necessary to enable it to grasp at once all of its historical representation—the frequency of its occurrence,* its uniform fatality, the rapidity of its progress, the obscurity of its causes, its universality, and its defiance of medical skill. So universal is it, that scarcely any region of the globe is totally exempt, whilst in those, where it is oftenest met with, all ages and sexes fall ready victims to it. The young and the gay; the beautiful and the lovely; the strong and the brave, yea, the exalted of the earth, are the common subjects of its savages, and are daily transferred from this terrestrial sphere to enter upon the realizations of the untried future. What may be said of tuberculosis, which is properly defined, a tendency to the deposition of tubercular matter, is perhaps true of all the other diatheses, for when examined, they too have afforded ample and enlarged data to the theorist upon which to speculate, and have called forth the deepest powers of research, the closest reasoning, and the strictest analyses of facts. It may be further stated, that if the tubercular diathesis, as we are referring to this more particularly, has afforded these enlarged facilities to the speculative pathologist and been subjected to the most rigid scrutiny by the philosophic, in neither case, have the results proved flattering, since it is, to day, a stumbling block to the former, and has shown itself the profoundest subtlety to the latter.

To unravel this mysterious agency, presupposes our ability to determine its cause or causes, and this indeed would seem almost superhuman, since it requires us to give not only the histology of the *predispositions* of individuals—the developing relation of centric and excentric circumstances to those predispositions—but also imposes upon us the impracticable duty of accounting for the morbid qualities or nature of organic cells: for foetuses themselves are found to be invaded by this disease, and it is probable, if the means existed for demonstration, that the evidences of this disposition are more or less manifest in the primitive cells. The foundation is weak, consequently, the superstruc-

* It is calculated, that one-fourth the deaths which occur in Great Britain and Ireland, are produced by consumption. We presume that the proportion is about one-seventh in the United States.

ture must be tottering and insecure, while the compensation is mere fortuitousness.

Having premised this much, we bring our remarks a little nearer the object of this essay, which is to investigate the *adaptation of climate, for a permanent residence, to the wants of the tuberculous invalid*. We are aware, that it is an old and hackneyed theme, indeed almost obsolete, but yet hope by the arrangement which we have adopted, to elicit much to excite interest, and to throw some light upon a field, confessedly dark and difficult.

The treatment of consumption has been properly divided into hygienic and therapeutic, more stress latterly, being laid upon the former. Just here, it may be said, that if the prevention of the ordinary accidental diseases of climates, requires so careful adjustment of all the healthful functions, which are sought to be carried out by hygienic measures, how much more careful should we be, to avoid, not only the ordinary exciting causes of disease, which the elements around afford, and the neglect of certain duties impose, but to regulate and dispose to healthful action, those hidden but vital functions, which in the hands of this perverting agent, prove so powerful for destructive physical results. Prominent among the hygienic and prophylactic measures which have been adopted, stands the subject of climate. The greater frequency of the disease in certain geographical localities over others, seems to have attracted the attention of the profession at an early date, and accordingly we find, that different places at different times, have received their sanction and commendation. Indeed, the suitability of climate to the consumptive, a subject very naturally pre-eminent in the mind of the sufferer himself, has received a very large share of professional attention.

Numerous and various attempts have been made to ascertain some place or other, where the declining consumptive might breathe a restorative and invigorating atmosphere, but the number of failures, has only equalled those attempts, for it must be apparent to every intelligent mind, that no chemical condition of the atmosphere in particular places, is capable of producing the desired results, because, "the constituents of the atmosphere whether it be analyzed at the equator or at the poles, are the same." A determining cause of these oft-repeated failures is

found in the fact, that professional men, with some exceptions, in their endeavor to search out a suitable climate, have apparently ignored every *physical* condition of the atmosphere, other than that of its temperature. That this is so, will not be doubted, if we will closely scan the remarks of authors and writers generally upon the subject. They express their ideas of the requisition of proper climatic relations by the words, "equable climate", and if we study the true intent and meaning of this phrase, by their subsequent remarks, it will be almost invariably found, that an equable climate is one possessing uniformity of temperature.

Before progressing farther, we desire to make one remark, concerning the respiratory apparatus and its relation to climatic conditions. It is proper, that we should separate as distinctly as possible, the strictly physical part of the respiratory act from that of its vital functions. This is necessary, in order to enable us to distinguish the action of certain agents upon the apparatus, both physically and vitally, and the mutual reaction of their results upon each other. The respiratory mucous surface offers no obstacle to the action of certain physical forces; on the contrary, it presents many requisites for the successful and perfect action of the process of evaporation, and that which regulates the law of "the diffusion of gases."

The absorption of atmospheric air by the pulmonary tissue is represented by physiologists, as being an act strictly physical in its nature, since, "all that is requisite for it, is the exposure of the blood to the influence of the atmospheric air, or in aquatic animals, of air dissolved in water, through the medium of a membrane, that shall permit the diffusion of gases; an interchange, there taking place, between the gaseous matters on both sides".* To illustrate: suppose a moving mass of fluid, carbonized blood, be maintained through a homogeneous membranous tube, in contact with, or surrounded by atmospheric air, would not absorption of oxygen, sufficient to decarbonize the mass in some degree, take place? And would not the contained carbon manifest a reciprocal tendency to escape into the surrounding atmosphere? The proper view to be taken of this absorption of atmospheric air by the lungs, we believe to be, that, whilst its absorption is under the control of physical forces, and

* See Carpenter's Physiology, page 559.

therefore physical in its own nature, yet, it is subsidiary to the accomplishment of results essentially vital in their nature, e. g., the proper aëration of the blood, the maintenance of animal heat, etc. In the language of a writer in a literary journal,* "it is the *physical fact* upon which the vital force depends, but it is not the *vital function* itself."

The fallacy of the idea of simple uniformity of temperature, being all that is necessary for the climate of the consumptive, has been abundantly proved by those who have availed themselves of this delusion—for many have died in those regions to which they have emigrated, whilst perhaps the majority, at longer or shorter intervals, have returned without material benefit, if not injury. We do not desire to be understood, as asserting, that no allusion to other conditions of the air, has been made literally, for authors do mention as peculiarly pernicious, the union of cold and moisture. Yet, when these very men urge their patients to retreat to warmer climates, little or nothing is said about the presence or absence of moisture. It readily appears, that not only the temperature of the atmosphere of a locality must be considered, but its varying conditions of dryness and humidity; rarity and density; its climatic seasons in all of their features; its prevailing winds—whether warm or cold, moist or dry—the class of diseases, that coincides with their prevalence, and finally, the degree of circulation of the atmosphere. These various conditions require a close attention, and should in no case, be disregarded, for no benefit can accrue to the invalid from the temperature of a clime, if its humidity be such as to impede the natural exhalation of aqueous vapor from the lungs and skin; or if its dryness be such, as to preserve a preter-natural dryness of the mucous tract and tegumentary surface, from increased evaporation; or if its density be such, as to excite too great exertion in the act of respiration; or if its rarity be such, as to operate unfavorably by quickening it, and producing a state of breathing somewhat akin to that of the asthmatic. For these and other reasons, it is necessary for us in the selection of a climate, to search out one where the degree of heat will act, neither as an over-stimulant nor as a debilitant, but preserve the vital activities at a moderate, normal standard; where the natu-

* See Eclectic Magazine of Foreign Literature, Nov. 1853, page 347, copied originally from Blackwood's Magazine.

ral exhalation from the skin and lungs, may neither be too much increased nor diminished; and where the respiratory organs themselves may not be enfeebled by too great exertion. In short, a happy medium must be struck between these varied barometrical, hygrometrical, and thermometrical conditions, or at least, where a majority of these several conditions are favorable, a due regard being also paid to the incidental conditions mentioned above. We regret to acknowledge the exceeding great difficulty of finding such a climate, but although this desideratum should never be realized, yet an enlightened theory must suggest a proper relationship between these sensible conditions of the atmosphere and the invalid, before a simple change of climate can prove remedial in its effects.

Again: perhaps a cursory notice of the effects of these various conditions upon the human system in health, is required of us, before entering upon the farther prosecution of the subject. To enter into a discussion about the effects of temperature alone upon the system, would be altogether foreign to the present subject, since it is necessarily modified in its effects, by some other associated condition, as humidity, dryness, rarity, density—and the degree of circulation of the atmosphere; or two or more may be combined with it. According to the associated condition or conditions, will be the difference of effects manifested upon that system. Heat of atmosphere with moisture will produce effects radically different from heat and dryness. So also cold and moisture will secure effects widely different from cold and dryness. Moreover the degree of those effects, in either case, will be more or less regulated by its barometric pressure and its state of circulation.

Heat and moisture exercise an enervating, enfeebling, relaxing influence upon the human system; when excessive, and with a stagnant condition of atmosphere, they produce a feeling of oppression or suffocation, and create a predisposition in that system to such diseases, as are manifested by symptoms of debility. They also impede the natural transpiration from the skin and lungs, by enfeebling the capillary system, and causing the accumulation and deposition of the aqueous secretions upon those surfaces. This latter phenomenon is especially seen, when the air is quiet. The rate of exhalation of carbonic acid from the system, is also increased with the degree of moisture of the

atmosphere. Lehmann,* in certain experiments, with this express object in view, "found, that while 1000 grammes weight of pigeons, yielded in dry air 6.055 grammes carbonic acid per hour, at the temperature of 75°, and 4.69 grammes at 100°; the same animals, in moist air, yielded 6.769 grammes at 75°, and 7.76 grammes at 100°, and while 1000 grammes weight of rabbits exhaled, in dry air, 0.450 grammes per hour at a temperature of 100°, they exhaled as much as 0.677 grammes in a moist atmosphere at the same temperature."

Heat and dryness exercise an irritating influence, allied to feverishness, upon the animal frame—favor the exhaustion of its nervous energies—occasion the too rapid escape of its juices by transpiration, thereby producing an unnatural dryness of the various evaporating surfaces, and the diminution of the watery element of the various secretions: the quietness of the atmosphere regulates to some extent the degree of these effects. Persons subjected to such a condition of atmosphere feel the skin excited and burning,—in fact, as if it was congested in its efforts to supply with moisture the greedy atmosphere about it. This peripheral determination of the blood, withdrawing the usual quantity from the central organs, deranges their action from a deficient nutrient stimulus, and produces a want of co-ordination of the ordinary nervous actions. Accordingly, such suffer with headache, derangement of the biliary and other secretions; are irritable, breathe irregularly, and are more or less tremulous. The desert air is a striking and familiar example of this state. Intolerant thirst points at once to the cause and to the means of temporary relief. This condition is the one experienced along the shores of the Mediterranean sea, during the prevalence of the famous sirocco, the effect of which has been well described by Dr. James Johnson.† "During," says he, "the continuance of this wind, all nature appears to languish; vegetation withers and dies; the beasts of the field droop; while those who are strongly susceptible to electrical changes in the air, such as precede and attend a thunder storm, will easily understand the effects of the sirocco on the human frame, as an increased degree of the sensation which they then experience. The animal spirits seem too much exhausted to admit of the least bodily

* See Carpenter's *Physiology*, page 305—last edition.

† See Johnson on *Tropical Climates*.

exertion, and the spring and elasticity of the air appears to be lost."

The effects of low temperature was definitely ascertained by Vierordt, in experiments upon himself.* He ascertained, that with the decrease of the temperature, the pulse and number of respirations became increased in frequency, per minute, and that the volume of an expiration in cubic inches, the carbonic acid in the expired air, and the barometric pressure were also increased. "The action of cold," says Dr. Lee,† "under these circumstances, not only represses the exhalent functions and tends to occasion a congestive state of the thoracic and abdominal viscera—and, as a consequence, acute and chronic inflammation of these organs, or of their serous or mucous membranes—but also, by depressing the vital energies, favors the supervention of cachectic states of the system." Cold, therefore, exercises a contrary effect to heat, by constringing the capillaries of the different surfaces and causing a central determination of the vital fluid, and when its impression is carried, either by its degree, suddenness, or prolonged contact, to an injurious extent, we find these central organs taking on diseased action. A union of cold and moisture is universally found more productive of disease, than that of cold and dryness, as is abundantly testified by catarrhal, bronchitic, and pneumonic affections. The dryness of the atmosphere, by its physical action in promoting aqueous transpiration, when associated with cold, exerts an influence, which tends to the preservation of the integrity of the evaporating surfaces, the purity of the blood, and the healthful action of the various organic processes. The highest order of health, we believe to be consonant with these two relative conditions of the atmosphere, as shown by the ruddy complexion, and glowing cheek; the vigorous intellect; muscularity of frame; and the sthenic nature of the diseases to which such persons are subject. Barometric pressure was found by Vierordt to increase the pulsations, the respirations, and the cubic inches of expired air per minute.

The climatic seasons are found to influence materially many of the functions of the system. In the winter, greater elimination from the internal secreting organs, diminished cutaneous

* His experiments extended from 37°4 to 75°2 Fahr.

† See Prize Essay on Consumption, page 33.

transpiration, and an increase in the exhalation of carbonic acid, occur, and also a reduction in the animal temperature, unless compensated for by proper clothing. Summer presents almost the opposite of these various phenomena, and is so familiar, as not to require even mention of its influence. Concerning spring and autumn, we may remark, that their characteristic feature, changeableness of atmospheric condition, renders them peculiarly noticeable, rather for a contrariety of effects, than any strict uniformity, being uniform in but one, namely their greater production of disease.

The *prevailing winds* of a locality deserve notice, because they are more or less productive of the various meteorological conditions above noticed, and will exert an effect upon the human system, in strict accordance with that particular condition of the atmosphere, which they induce. The influence of certain winds in the production and prevalence of certain diseases was noted in the early history of etiology, and the study of their effects is sometimes painfully realized in the exciting of endemic agencies, and in the propagation and extension of those which are epidemic in their tendency. The winds frequently prove the instrument for the conveyance of pestilential materials from one locality to another, and occasionally this is so distinctly seen, that the path of the pestilence is the course of the wind. It is even said, that, in the occupants of the same house, those occupying opposite parts, as its northern and southern exposures, will acquire a predisposition to and manifest disease of a totally different character, each from the other. Of the two, however, a southern and western exposure is, we believe, considered the most salubrious. If then, the injurious influence of the winds is reduced to so small a compass, as to assist in begetting a difference of predisposition to, and disease in the occupants of the same dwelling, how carefully should we select localities for the consumptive.

The foregoing is a meagre portrayal of the effects of such meteorological states of the atmosphere upon the healthy economy, what then must be the degree of these effects, upon the enfeebled system of the consumptive? With the blood, altered in quality; his nervous energies impaired; the position of the respiratory membrane altered; its extent diminished, and its circulation retarded; in short, the very foundations of health and life sapped, it is not wonderful that we are rather anxious to admit its incurability.

West Indies.—Resuming our former connexion, the pulmonary invalid is instructed to repair to an equable clime. Now, having seen that the most approved definition of this phrase is uniformity of temperature, we conceive that the public has been misled by the profession; for persons have oftentimes by professional advice, migrated to localities, where, not only the humidity, dryness, density or other condition of the atmosphere, were injurious, but the climatic seasons themselves have contributed to prevent restoration. Is it not true, that a large number of physicians in order to recommend this or that locality, merely furnish themselves with, or enquire into the mean annual temperature, apparently regardless of the inclemency of the winter months, the relaxing and enervating effects of the prolonged summer heat, or the changeableness of the other seasons? Our observation teaches us, that it is true, in a large number of cases, that professional men, disregarding or rather overlooking the various extremes alluded to, have recklessly advised change of air, which to say the least, has been of no avail whatever. For instance, it is common for the consumptive to resort to a residence in the West Indies, allured thither by the uniformity of temperature, which is said to characterize those islands; for some of them, present a mean annual temperature of 79°. We have no statistics, by which to become acquainted with their barometrical and hygrometrical conditions, nor indeed with their monthly and daily ranges of the thermometer, but from their geographical position, their relation to certain currents of the ocean, and the fact of their falling within the region of the north-east trade wind, we question very much their applicability, if not disbelieve it. Situated between the southern portion of the North Atlantic ocean, the Caribbean sea, and the Gulf of Mexico, and being within the trade-wind region, itself a field of moisture, they afford ample facilities for the generation and presence of moisture. A high dew-point, prolonged high heat, with perhaps a dense atmosphere, characterize their climatic features; therefore the very nature of their atmospherical conditions go far to substantiate the observation and experience of Dr. John Hunter,* “that those, who come from England are not benefited by the warmth of the island; on the contrary, the disease is precipitated and proves fatal sooner, than it would

* Bell and Stokes' Practice, page 250.

have done in a more temperate air. Of this we have repeated examples among the soldiers, several of whom arrived on the island with beginning consumptions, and were quickly carried off by that disease." We think, that the hastening of the disease to a fatal termination, does not depend solely, as intimated, upon the warmth of the island, but to a great extent upon the associated and illy-adapted conditions of humidity and prolonged high heat. We may safely remark, that theory now shows, that which required experience and observation to prove, namely, that benefit may not be confidently expected for the consumptive, from a change of residence to these islands. Their dampness of climate, perhaps increased by the character of the soil, as indicated by their products, is such as to prevent a due elimination of the various secretions from the evaporating surfaces; and from its association with a high temperature, produces labored breathing, relaxation of the general system, languor and debility, thus favoring the progress of the deposit of tubercles, and the maturation of those already deposited. The influence upon the animal system, of the association of great warmth and humidity is effectively described by Lieut. Maury, U. S. N.,* when speaking of the warm, saturated air, which blows sometimes from the region of the Gulf streams—he says, "when the east winds blow along the Atlantic coast for a little while, they bring us air, saturated with moisture from the Gulf stream, and we complain of the *sultry, oppressive, heavy atmosphere*; the invalid grows worse, and the well-man feels ill, because, when he takes this atmosphere into his lungs, it is already so charged with moisture, that it cannot take up and carry off, that which encumbers his lungs and which nature has caused his blood to bring and leave there, that respiration may take up and carry off."

Florida.—Again, let us consider the climate of the State of Florida.

The inclination to travel south, in hope of benefit, doubtless suggested by the less proportion of deaths from consumption here, than in more northerly regions, and by its reputation for equability of winter temperature especially, has shown itself remarkably in the case of this State. A distinguished writer (Dr. Forry) upon Climate, says: "Compared with the other re-

* Physical Geography of the Sea, page 95.

regions of the United States, the peninsula of Florida has a climate wholly peculiar. The lime, the orange and the fig, find there a genial temperature; the course of vegetation is unceasing; culinary vegetables are cultivated and wild flowers spring up and flourish in the month of January; and so little is the temperature of the lakes and rivers diminished during the winter months, that one may almost, at any time, bathe in their waters. The climate is so exceedingly mild and uniform, that, besides the vegetable productions of the Southern States, generally, many of a tropical character are produced." Further on, he says, "in this system of climate, the rigors of winter are unknown and smiling verdure never ceases to reign." The mean annual temperature of its most equable and uniform locality, Key West, is $76^{\circ}09$ —the difference of the mean summer and winter temperatures is $11^{\circ}34$. With these evidences of its apparent appropriateness, it has been said of it, that "here the pulmonary invalid may exchange for the inclement season of the north, or the deteriorated atmosphere of a room to which he may be confined, the mild and equable temperature, the soft and balmy breezes of an evergreen land." Without denying the assumption of benefit, in toto, we propose to examine its legitimate claims to our confidence and support, by a study of its meteorological conditions. But before proceeding farther, we would remark, that the claims which it presents to professional confidence are as great, if not greater, than those of the West Indies, south of Europe, &c.

Geographically, Florida is a peninsula, bounded on the south and east, by the Gulf of Mexico and Atlantic ocean, respectively; its northern and western boundaries connect it with the states of Georgia and Alabama. Topographically, it is described as follows: "belonging entirely to the Atlantic plain, no part of the surface rises more than two hundred feet above the level of the ocean; south of lat. 28° , it consists chiefly of a vast morass, called the Everglades; north of this, to the Georgia line, the surface is mostly a dead level, with scarcely an undulation. The ridge, dividing the waters east and west, is not more than one hundred and fifty feet high, and disappears at Lake Tohopkalika. This northern portion is an extensive pine forest, interspersed with ponds, swamps, low savannahs, and hammocks, which last are rich bottoms, overgrown with trees and a redund-

ant undergrowth. The barrens are covered with forests of pine, with little undergrowth. The soil consists mostly of sand, but the hammocks, which are numerous, have a fertile soil, composed of clay and sand. The savannas, which are covered with a tall grass, are inundated during the wet season. The river swamps are mostly overgrown with cypress and cypress-knees." Its products, besides fruit, are cotton, rice, sugar-cane, indigo, maize, tobacco, etc.

Hygrometrically, its condition is alone to be inferred from collateral circumstances, since no statistics of this character have ever fallen under our inspection. It is said*—"that the air is much more humid, than in our more northern regions;" that "the dews, even in winter, are generally very heavy;" that metals, "as surgical instruments," are kept from rusting with extreme difficulty. "During the summer, books become covered with mould and keys rust in one's pockets;" "fungi flourish luxuriantly." The following summary of the quantity of rain, that falls at particular places in this State, will not be without interest at this place. There fell at Key West, in 1851, 59·57 inches; in 1852, 54·31 inches; and in 1854, 47·91 inches. The average annual quantity is 47·65 inches. At Fort Brooke, Tampa Bay, in 1840, there fell 89·86 inches, in 1843, 56·28 inches; in 1846, 54·20 inches; in 1852, 69·26 inches; and in 1854, 77·44 inches. The average annual quantity is 55·47 inches. The lowest measurement recorded in eleven years is 44·77 inches in 1853. At Fort Barracas, Pensacola, Florida, in 1843, there fell 62·16 inches; in 1844, 59·53 inches; and in 1854, 50·82 inches. The average annual quantity is 56·98 inches. At Fort Marion, St. Augustine, in 1844, there fell, 29·91 inches. The average annual quantity is 31·80 inches.

Again, a slight allusion has been made to its climatic seasons, the difference at Key West, between the mean summer and winter temperatures, being only 11°34. But the extremes of the climatic seasons are not always indicated by a reference to the various mean temperatures, for the mean annual, summer, winter or other season, may show a moderate average, and yet, the thermometer may fluctuate between great extremes in the year or in the respective seasons. A writer, (Dr. Kitchen of Indiana)

* Ferry—Climate of the United States.

in the Nashville Journal of Medicine and Surgery* says, "in regard to uniformity of temperature, I find that during a period of ninety-two consecutive days, there were thirty-seven mornings, that the thermometer exhibited a change of over ten degrees in twenty-four hours, on twenty-six of these mornings, the changes amounted to from ten to twenty degrees, and on eleven of them, to from twenty to thirty degrees. On one occasion, the mercury fell *forty-six degrees* within a period of twelve hours, and on another *thirty-eight degrees* in the same length of time". The same writer† previously says, that, "the weather for the largest portion of December, 1855, was mild and pleasant, indeed, such was the case almost throughout the entire United States. On only one morning during the month, was the mercury found below the freezing point; on Christmas day, however, there was a sudden severe change of temperature *amounting to twenty degrees in one hour.*"

Again,‡ "in the year 1765, John Bartran, states, that on the 3d of January, being on the St. John's river, north of Lake George, the thermometer was at 26°, wind north-west, the ground was frozen an inch thick, on the banks; this was the fatal night that destroyed the lemon, citron and banana trees in St. Augustine." Williams says, in 1774, there was a snow storm, which extended over most of the territory. In February, 1822, the cold was so intense in West Florida, that all the fruit trees were killed to the ground; but this season was comparatively mild in East Florida. On the contrary, East Florida, suffered exceedingly from a violent frost, on the 6th April, 1828; on this bitter night, crops of cotton, corn, and fruits were all destroyed. The thermometer at Six-mile creek, on the St. John's, stood at 27°, and the ice made an inch thick. The crops of corn and cotton were cut off, as far south as Tomoka. During the month of February 1835, East Florida was visited by a frost, much more severe than any before experienced. A severe north-west wind blew ten days in succession, but more violently for about three days; during this period the mercury sank *seven degrees below zero.* The St. John's river was frozen several rods from the shore, and all kinds of fruit trees were killed to the ground; many of them never started again, even from the

See Vol. x. June, 1856.

† See same Volume. The Italics are his.

‡ See DeBow's Review, vol. i., page 341.

roots. Frost is felt at some seasons, in every part of Florida; though not usually below latitude 27°. Vignoles says, "the nipping of the white frost is occasionally felt so far south as the extreme capes of Florida, though not an annual visitant".* In the year 1800, Jan. 10th, "snow and hail fell the whole day" at St. Mary's river, Florida; and on the 11th the snow was five inches deep. The lowest observed temperatures were 10th, 37°; 11th, 28°; 12th, 34°. (Forbes".†

We have never seen a statement of the barometric pressure of the atmosphere of this State, but presume that of the northern portion is somewhat heavier than that of the southern, inasmuch as it is represented as being dryer. Its sandy soil may partially account for the same observation. But no part of the peninsula being higher than two hundred feet above the sea, a mere nominal difference must exist between the degree of pressure over the two.

Dr. Charles A. Lee, in a letter to Dr. Forry, remarks—"I have no doubt, whatever, that the state of the dew-point, exerts a far greater influence upon animal bodies, especially in the production of disease, than temperature itself. This arises chiefly from the circumstance, that a high state of the dew-point, interrupts to a greater or less extent, the healthy function of the skin and lungs, two of the most important organs in the body. I maintain, that perfect decarbonization of the blood cannot take place in the lungs with a high dew-point, and consequently that the vital fluid cannot receive a sufficient quantity of oxygen, to fit it for those various offices, which it is designed to perform in the animal economy. Evaporation from the surface of the body is either checked, or the 53 ounces of fluid given off from the skin every 24 hours, in a moderate dew-point, is disposed

* It has been suggested, that perhaps these dates are not reliable, especially, that which dates the temperature on the St. John's river, to have been below zero. The following quotation from Lorin Blodget's late work, fully corroborates it. In speaking of the extremes of temperature, experienced every where in the year 1835, he says, "nearly all the surface of the United States as then observed, or all that east of the great plains, was below zero on February 8th, Natchez at the south-west, and Savannah on the Atlantic coast, being the limits. though a large inland area of the north of Florida was also below zero, its limits being about the 29th parallel." (Blodget's Climatology of the U. States, p. 150.)

During the month of February (8) of this year, the thermometer stood at -4° , 5 A. M., at Augusta Arsenal. Geo.

† See Blodget's Climatology of the United States, page 147.

of through some different channel, constituting a material derangement of the animal economy." The State of Florida must possess a high dew-point, for the prevalence of paroxysmal fevers, often epidemic, which always go, hand in hand, with "a high temperature and a high dew-point," point unerringly to the fact. But let us examine more closely the why and the wherefore of this great relative humidity.

Being situated between the warm waters of the Gulf, and those, still warmer, of the Gulf-stream, it is impossible that it can be insensible to the vast quantity of water evaporated from their surfaces; and when the south-east and south-west winds blow, coming in the first instance from the Gulf-stream and the broad Atlantic beyond; in the second, from the Gulf of Mexico and perhaps the Caribbean sea, still farther south, what a densely humid atmosphere, one would suppose, it must have. These sea-winds prevail a great part of the year. With no mountain ranges to interrupt or obstruct the free entrance of the winds; and being also reduced almost to a level with the sea, the immense volumes of aqueous vapor, with which they are loaded, cover the earth and saturate its atmosphere. * "The whole country being a dead level, the super-abundant moisture remains until evaporated by the sun's rays; and the winds traversing the grounds thus saturated, it is supposed, possess considerable agency in the causation of fevers." In addition to this, consider the vast and copiously evaporating surface which it contains within itself. Its extensive morass covering the southern portion, known as the Everglades, its ponds, swamps, low savannahs, hammocks, and rich bottoms, covered with trees and shrubbery; notice also the fact, that rain falls at particular seasons†—that during six months, an average of from 32 to 34 inches of water falls throughout the State, and its loss by evaporation, with some exception, during the remaining portion. All of these circumstances conspire to deprive it of much, that might otherwise

* This is especially true of the wet season.

† According to Mr. Blodget, this state falls, neither in an area of constant precipitation, nor in one of strictly periodical rain. He assigns it an intermediate position, under the title of *sub-tropical*. Although he again says: that, "It appears to be a climate ordinarily of a division into two principal seasons, in regard to the rains, the wet summer and the dry winter, yet either may be interrupted by extremes of an opposite character, much greater than those occurring in any other known district."

recommend it. Temperature alone, the variableness of which we have exhibited above, will not suffice to answer our present demands, but the degree of humidity is a paramount consideration in the investigation, influencing, as it does, not only the physical part of respiration, but its vital results. It may be incidentally stated that, perhaps, when the north or continental winds prevail, as they frequently do in the winter season, that the moisture over the various low places on its surface, and along the rivers and coast, is made to assume a more sensible condition—that of mists, fogs, etc. Dr. Kitchen, from whom we have already quoted, had spent the winter in Florida, being a consumptive, though without material benefit. He says, that “there is an impression entertained by some, that Florida air possesses curative properties,” and that “nothing but disappointment can result to the invalid who entertains such an idea, for the most that can be said of a winter spent there, is, that it places persons in delicate health under more favorable circumstances for recovery, than can be had in more northern latitudes.” For those in the early stage of phthisis, the most rigid hygienic measures must be adopted and carried out to secure benefit; but for those farther advanced in the disease, he considers that they “will do better to remain at home.” So potent is the evidence of its unadaptedness to the consumptive for a permanent residence, that we think, with some foundation in truth and observation, we might essay to disturb its quiet, as a winter resort.* The vicissitudes which may characterize its winter season, as we have given them from the records of the past, would prove nearly all that is requisite, but we do not present them for that purpose, for however marked those occasional vicissitudes may be, yet, when compared with those constant changes farther north, they must be preferred.

As some intimation in regard to the temperature of the waters in and about this State in the winter, has been made, we present the following quotation from the Army Meteorological Register, and with which we will conclude our remarks upon its climate. “The Gulf coasts are not modified by its high temperature in

* This part of the subject will be thoroughly canvassed in our comparison of the Pacific climates, with this State. In view of this, we have omitted much that might have been given in this connexion.

winter, so much as would seem inevitable under ordinary circumstances, and the only apparent reason is the great relative refrigeration of the continent generally, and the consequent prevalence of land winds instead of winds towards the continent. These winds are violent also, in proportion to the contrast of temperature, and as no general atmospheric circulation aids to drive the sea-air inland, as is the case in the west winds of the European coast, and to some extent in the summer winds of the Gulf, the natural reversion from the land prevails, and little modification of the climate of winter is due to the presence of warm waters in the Gulf."

Hypothetically, it may be asserted, that a uniformly moist atmosphere, with a prolonged high temperature, when under the regulating influence of large bodies of water, is less apt to produce catarrhal, bronchitic, and pneumonic affections, than where it is ever varying in regard to dryness and humidity, cold and heat, etc. Indeed, even the almost constant co-existence of a prolonged low temperature with humidity is less productive of the same diseases. To substantiate these positions, we may point to the universally greater frequency and proportion of catarrhal diseases in the interior of our country, especially where the interior is remote from large bodies of water. Diseases of the respiratory organs of this character, contrary to the common opinion, are less frequent along the Atlantic coast of the northern portion of the United States, and in the neighborhood of the great chain of inland seas or lakes along its northern boundary, where a uniformly low temperature coincides with great dampness; and also, in its southern portion, where a high temperature and a high dew-point co-exist, than in the inland portion of it, where summer follows winter so closely, that spring almost escapes observation, and the change, from summer to winter, is equally abrupt, possessing at the same time an atmosphere constantly and rapidly changing from moist to dry and the reverse. It is also worthy of observation, that in these regions, the thermometer has the greatest annual range—having at some of them, a range from 110° to 130° Fahr. According to Dr. Forry, there were fewer cases of pulmonary disease among the soldiers of the army, stationed along the sea-coast, north and south, and in the forts, along the great lakes, than among those stationed in the interior, and distant from the latter. Being acquainted with the

atmospherical vicissitudes of these regions, the fact is readily accounted for. Nature has endowed man with the happy faculty of adapting himself to the various physical and sensible conditions around him, where anything like uniformity in respect to these states is observed; but where no uniformity exists, and where everything is change and variableness, it were indeed impossible for him, with all his genius, to properly adapt himself thereto. He may clothe himself against the frigid aspects of an arctic winter, or temper his frame to the fiery heat of the torrid zone, but when subjected to both in quick succession, and at uncertain intervals, with their variations as to dryness and humidity, the system, wounded on every side, falls an easy prey to such influences. One day, the excretory functions of the skin diminished, and the renal and respiratory apparatuses active in compensation, by an increased elimination from their surfaces: the next, every pore of the skin open, and its functions increased, while the respiratory mucous surface is greeted with an atmosphere so dry, as to keep it in a state of unnatural dryness; or so humid, as to favor the accumulation and non-elimination of a sufficiency of aqueous substance by both surfaces from the blood—thus affecting injuriously both the physical and vital relations of the phenomena of respiration, and the organic processes of the system generally. It would seem indeed impossible not to contract colds. Dr. Kitchen states, that he “met with numerous cases of bronchitis and pneumonia,” during the winter that he spent in Florida; but as the period of observation by Dr. Forry was much longer (10 years) and at a time (during the Seminole war) when a large body of troops had been collected in this State, we prefer to adopt his statement—that of their comparatively rare occurrence.

It should be borne in mind, that in speaking of the climate of the West Indies, and Florida, we are not arguing their favorableness for the production of tubercular disease in the native inhabitants; for the predisposition which it begets in them is to a totally different class of diseases, but we do mean to say, that an analysis of their meteorological and topographical conditions forbids the anticipation of permanent benefit to the consumptive, transported from other climes, and annuls the propriety of their recommendation, as places of resort for a permanent residence—yea, apparently, this exotic can only find the elements of swift-er decay.

South of Europe.—Other countries farther northward, have from time to time, been recommended with the hope of amelioration to the consumptive. With English and European writers generally, the south of Europe has enjoyed an extended reputation; indeed it is not uncommon for those of this Continent, who are able, to resort to this region. However, the reputation which it has enjoyed, does not so fully obtain at present. Now it appears to be recommended, simply in the absence of a better, and not from any real adaptedness. The city of Bordeaux, upon the south-western border of France, has a mean annual temperature of $57.^{\circ}1$; the mean temperature of the summer is $71.^{\circ}1$; that of the winter 43° ; and the mean temperature of the coldest winter month is $41.^{\circ}00$. Madrid, in Spain, has a mean annual temperature of $57.^{\circ}4$; the mean temperature of summer is $74.^{\circ}1$; that of the winter $42.^{\circ}1$; and the difference of the mean temperatures of summer and winter is $32.^{\circ}$.

The frequent condensation of moisture into mists and fogs, along the south-western part of the Continent, is doubtless attributable, to the contact of the warm vapor which saturates the air brought thither from the wide-spread Gulf-stream—the great and beneficent moderator of the climate of western Europe, with the cooler air over the land, especially when the continental winds prevail. It is said by a distinguished writer,* that, without the moderating influence of this stream, the “soft climates of both France and England would be as that of Labrador, severe in the extreme and ice-bound.” But, whilst it serves to mollify and soften the climate of these countries, by depriving them of a frigidity, natural to them in its absence, rendering them habitable, and making them the special seat of commerce and civilization, yet, when that influence is analysed in connexion with our present object, the abundance of moisture transported thence by the south-west winds to the south-western and western portions of the entire Continent, renders it totally unadapted to those laboring under pulmonary disease. Now, we are taught, that the south-western winds are the prevailing and rain-giving winds of Europe, and if we bear in mind the region (south-east trade-wind region, according to Lieut. Maury) whence they emanate and those over which they pass, together with the peculiar exposure of those countries on its south-west to the same,

* Lieut. Maury—Physical Geography of the Sea.

before they can have possibly been deprived of their moisture by precipitation, we possess satisfactory reason to believe, that too great humidity must exist not to render a permanent residence injurious to the consumptive patient. To forge this chain of evidence, still stronger, we invite attention to a consideration of the iso-chimenal and iso-thermal lines of these localities.* If we examine a chart with these lines mapped out, it will be observed, that the iso-chimenal line, which, in crossing the Continent of Europe, passes through the south of France, enters about midway of Ireland, latitude $52^{\circ}\frac{1}{2}$; then descends abruptly about 5° latitude, entering France about Bordeaux, and passing a little above Marseilles and Montpellier; thence it passes to Bologna, "the coldest of the Italian cities," and here commences a gradual descent, cutting across the Black Sea, just above Constantinople, about latitude 43° N. All of the places on this line, have the same mean winter temperature, yet who thinks of sending the consumptive to Constantinople for a winter residence?

The iso-thermal line, which passes through the south of France, starting just above Bordeaux, takes a north-eastwardly direction over Strasburg, towards Cracow, and leaves the European Continent to the north of the Caspian Sea. The sufferings of the allied army in the late war with Russia, during the winter campaign in Crimea, farther south than any place along this line in its course through the Russian territory, teach practically a condition of climate, too rigorous for the consumptive to endure. This region, thus presenting a mean winter temperature about that of Dublin, Bologna, and Constantinople; and a mean summer temperature about that of Strasburg, Cracow, and the south of Russia, would seem, from these circumstances alone, very unpromising, but when associated with that meteorological element before discussed, is stamped with an unmistakable want of real adaptedness to the ends in view.

In the consideration of their thermometrical conditions, it should be remembered, that "the mean temperature of the hottest and coldest months, (nor of the various seasons, we may add,†) by no means, indicate the limits between which the thermometer may fluctuate between one and the same spot. It thus

* Our remarks are intended to bear more particularly upon the south of France and its neighborhood, as these are the points most generally recommended.

† The Parenthetic sentence is our own.

happens, that, even in districts enjoying a warm climate and a mild winter, an extraordinary degree of cold is felt—thus, for instance, in the year, 1507, the harbor of Marseilles was frozen over its whole extent, for which a cold of at least — 0.4° was requisite. In 1709, the Gulf of Venice, and the harbors of Marseilles, Geneva and Cette were frozen over; and in 1789, the thermometer fell at Marseilles to — 16° .* The occasional severity of these localities is worthy of notice, as it shows, that uniformity of temperature does not always characterize them. Whatever of benefit, therefore, can be had by a residence here, is to be attributed to a rigid observance of all the numerous hygienic measures, by those who sojourn there, and is to a very limited degree, ascribable to any natural climatic condition.

Again, we present the following remarks of Dr. Johnson,† as illustrative of the real character of that portion of Europe, which borders the Mediterranean Sea. “Placed,” says he, “between the burning sand of Africa on the one side, and the Alps and Pyrennees on the other, the Mediterranean skies are alternately parched by the south-east—chilled by the north-west, or stilled by the Sirrocco winds. Thus, from Barcelona to Geneva, the iron-bound coast presents a succession of dreary mountains and craggy rocks, the tops of the former being frequently covered with snow, from the beginning of March till the end of May. From these, the frigid Euroclydons descend in whirlwinds upon the contiguous ocean; while at other times, the Sirocco breathes fire from the deserts of Sahara and Lybia.” After giving the effects of this latter wind upon the animal and vegetable world along its coast, he continues thus: “After this description, the Mediterranean climate could hardly be set down, as one that was favorable to the lungs of a northern invalid, seeking refuge from the atmospherical vicissitudes of England. Yet numerous writers describe this portion of the globe as enjoying a happy medium between intertropical heat and hyperborean cold. But, we must not calculate on heat, cold or evenness of temperature, by the parallel of latitude; on the contrary, as a modern author has justly observed, ‘storms most tremendous occasionally burst from the mountains, with the most piercing coldness, on many of the boasted retreats along the northern shores of the Mediterranean.’” Finally, we find the following allusion to the climate

* See Müller's *Physics and Meteorology*.

† *Tropical Climates*, page 238.

of these localities, taken from one of the standard authorities of the present day. "The climate of the Mediterranean and of southern Europe generally, does not merit the reputation, which it has hitherto, or until recently enjoyed for the cure of consumption. On the contrary, it excites with singular and alarming rapidity the tubercular diathesis into actual disease, by promoting the development and softening of tubercle."^{*}

We might subject other localities, highly recommended, to a like examination, but it would involve too great sameness to awaken interest, and lengthen this article unnecessarily. Suffice it to say, that the result of a farther prosecution of the investigation would not be less unsatisfactory, for it is a melancholy and painful fact, that no place has yet been proposed, that fully complies with all of the necessary circumstances.

Having thus passed in review, the various conditions requisite for the adaptation of natural climate to the consumptive; and given a brief recital of the influence of certain meteorological conditions upon the system in health, and their probable effects upon the diseased; and having tested the applicability and adaptedness of the West Indies, Florida, and Southern Europe, by those meteorological conditions deemed necessary to be complied with; and having further shown their unadaptedness or want of suitability to the requirements of the consumptive, we propose to examine the climate of certain other regions, hitherto obscure and without repute; at the same time, indulging the hope, that the search may not prove entirely fruitless. Even if we do not succeed in demonstrating a strict compliance with every necessary, still we think, that we shall be able to present such a record, as will claim a far higher recommendation, than those we have passed in review.

Before, however, we enter upon this field of investigation, we desire to make a correction of certain statements, which seem likely to pass unnoticed. In the attempt, by certain writers, to show that the combination of heat and moisture is equally productive of phthisis pulmonalis, with that of an association of cold and moisture, comparisons have been made between places in the south of Europe; numerous islands in its vicinity; and the warmer regions of the southern portion of North America, as the West India Islands, and the Southern States of this Con-

^{*} See Bell and Stokes' Practice, page 248.

federacy. When fairly contrasted with each other, the less proportion of deaths from consumption in warm climates, is a fact, which remains yet uncontroverted. We may instance, its less frequency in the southern portion of the United States; and contrasts made between the West Indies, farther south, and England, show a relatively less proportion in the former. Dr. Edwin Lee,* in the Prize Essay, upon Phthisis Pulmonalis, states, upon the authority of Dr. Forry, that the proportion of phthysical patients in the southern region of the United States, is even greater than that of the northern. He remarks: "Dr. Forry, in his statistical researches in the medical department of the American army, remarks, that in the whole southern region of the United States, the proportion of soldiers annually attacked by consumption amounted to $10\frac{3}{16}$ per 1000; the total amount of deaths from consumption and hæmoptysis amounts to 108; whereas, in the northern region, the proportion of consumptive soldiers is but 7 (each year) per 1000, that of the deaths, being 47; and, moreover, in that part of the northern region, where the climate is the most severe, the proportion of phthysical patients is not more than 5 per 1000." By an examination of the author referred to, it will be found, that the number of deaths from consumption and hæmoptysis is 101, instead of 108, as reported for the southern region. It is true, that the statistical table given by Dr. Forry, at the conclusion of his "General Deductions (Pulmonary Diseases)," does show a much greater frequency of this disease in the southern region, than in the northern; but this is readily accounted for, by the fact, that in this table, for convenience of arrangement, the middle and southern divisions were consolidated under the head of the "Southern Region." He divided the United States into three great divisions, the Northern, Middle, and Southern—the Middle, embracing the most of the north-western states, a few of the middle states, and those of the southern, most northwardly; the Southern, embracing the posts on the lower Mississippi and Florida. This author himself, as if to prevent any unjust conclusions, in regard to the Southern Division, says, that, "it is in the middle districts of the United States, however, that pneumonitis, pleuritis, and phthisis pulmonalis, are most prevalent, the

* See Prize Essay on the Effects of Climate on Tuberculous Disease, by Edwin Lee, M.R.C.S. June 6, 1855.

peninsula of Florida having a lower average, than any other region." Moreover, by the table* referred to, it will be seen, that the proportion of cases (phthisis) in the Northern Region was 23 per 1000—deaths, 46 per 1000. The ratio of cases in the Southern Region, separate from the Middle, was 18 per 1000—deaths, 19 per 1000. The addition to the latter of the ratio of cases and deaths in the Middle Division, will explain the great preponderance, in the Southern Region, as stated by Dr. Lee. Ratio of cases in the Middle Division, per 1000, of phthisis pulmonalis, 24—deaths, 80 per 1000. Consolidating the Southern and Middle Divisions, we have 42 cases per 1000—deaths, 99 per 1000. The comparison of the Northern and Southern, under these circumstances, stands, ratio of cases per 1000, as 23 to 18—deaths, per 1000, as 46 to 19, which shows both greater frequency and higher mortality in the former. In that part of the Northern Division, where the climate is most severe, but most dry, the ratio of cases, per 1000, was 5—deaths, 22 per 1000. Comparing this with the Southern Division, we observe, that whilst the proportion of cases in the former is less, the number of deaths is greater. Dr. Forry states, that "the high mortality of the Southern region is caused by the Middle Division of the United States, the average on our southern coast, being comparatively low. Taking the statistics of the coasts in East Florida and those on the lower Mississippi, the ratio of phthisis pulmonalis is found to be only $1\frac{7}{16}$, and that of the remaining lesions of this class to be no more than $\frac{7}{16}$, per 1000 of mean strength." Further on, he says, that the ratio of cases and deaths is greater in the Middle region, than at either extreme. In thus remarking upon the statements of Dr. Lee, we do not desire to cast any reflection, but simply to rectify an error, into which perhaps unwittingly, he had fallen, and also to rescue the Southern portion of this Union, from the erroneous and unjust conclusion, which might have been drawn from this allusion to its salubrity.

[TO BE CONTINUED.]

* See Forry—Climate of the U. States, p. 242.

ARTICLE XIII.

Case of Uterine Polypus. By Z. P. LANDRUM, M.D., of Lexington, Georgia.

THE suffering, distress, loss of health, and sometimes of life, that follow in the train of these morbid growths, are incentives to physicians to attain to that knowledge of their existence, and of the means of their relief, which will, in most cases, lead to their early detection and removal. Instances have occurred in which the physician in charge has administered *drugs*, for years, to cure uterine polypi; and permitted the slow march of their repeated bleedings to sap the powers of a vigorous constitution, and scatter the mildews of sorrow and death over the hopes and affections of those of his case. How criminally guilty must the physician be, who, from ignorance and avarice, permits a woman to drink his drugs for years and finally die, whilst her confidence in his skill was the only barrier to that relief and health, which might have been proffered by the superior attainments of others. Such men do not deserve to be called physicians, but rather death pedlars, upon whom should rest the execrations of all good people.

Certain peculiarities connected with an unfortunate case of uterine polypus that recently came under my observation, is my apology for penning this article. We do not expect to record anything new to those who are familiar with the annals of medicine, but rather to refresh the minds of the readers of this journal, with a very interesting case of disease and suffering, and with comments on some of its peculiarities.

Mrs. B., aged forty years, experienced the first symptoms of a polypus, in the year 1855—her youngest child being five years old. Her last labor was without unusual difficulty, and her health afterwards was good, until the first attack of alarming hemorrhage, in 1855. The attending physician expressed the opinion, that her womb was threatened with mortification, from which it was saved *only by his timely efforts*. (He was one of the “knowing doctors.”) Since then, her “bleedings and faintings” have been *doctored* by several physicians, none of whom examined her condition in such way as to know the cause of her ailments. She applied to me for treatment last June which

I could not consistently grant, because she was unwilling to submit to vaginal examination. I suspected that a polypus was doing the mischief, and acquainted her with my suspicions, with the assurance that if they were well founded, medicines would be of no permanent benefit. I saw her no more, until the 27th of January last, when I was requested to visit her by her family physician. Her condition at this time was one of extreme peril. Her sallow complexion, shrunken features, dry, red and pointed tongue; small, irritable and frequent pulse—told but too plainly that her constitutional vigor had been blighted, and the resisting forces of life were rapidly succumbing. She consented to a vaginal examination, but stated that her case was not a polypus as I had suspicioned, but an inverted womb, as revealed in a similar examination made by a highly respectable practitioner the day before. Familiar with the difficulties that beset a correct diagnosis in some cases of uterine polypi, I insisted on making the examination for myself. The history recited of her sufferings, during this last attack, which at this time was of two weeks' duration, was painful in the extreme. The contractile throes of agony were worse, she said, than all the labor pains she had ever suffered.

After emptying her bladder (for she was unable to void her urine), I examined the tumour, which lay in the vagina, its lower part resting between the external labia. This lower part was oval in shape, and slightly lobulated on its surface. About midway the tumour there was an hour-glass constriction, caused, as I afterwards ascertained, by its decomposition and sloughing at this point. Its size, both below and above the constriction, was greater than a hen's egg. Its neck was but very little smaller than its body, and was connected by a cartilaginous formation with the interior part of the uterine fundus, which was partially inverted and drawn down, in a conical form, to the mouth of the womb. The neck of the womb was obliterated, and its mouth in the circular shape it assumes at the latter part of the first stage of labour. After passing my finger between the lips of the os uteri and the tumour, and examining its connection with the inverted fundus, I traced the body of the womb from the mouth, which was turned up behind the os pubis, downwards and backwards into the hollow of the sacrum. This reverted condition of the womb was made more evident

afterwards by a rectal examination. The womb, therefore, was reverted, partially inverted, and had a polypus attached to its inverted portion. The polypus sprouted from the anterior part of the fundus, or from the superior and anterior part of the body. This connection imparted to its weight, and to the uterine contractions for its expulsion, such a direction, as to cause its retroversion at the time of its inversion,—this we suppose.

The constriction in the middle of the tumour, caused by ulcerative softening and sloughing, impressed such peculiarity in shape, as to be a subject of some difficulty at my first examination. Three days afterwards, however, the sloughing at this point had progressed to such an extent, that the two portions of the polypus were held together only by a narrow band of cellular tissue. What caused the rapid death at this point? We are of opinion that the polypus was not expelled from the uterine cavity in its entire length at one time, but was arrested in the uterine lips at the point of sloughing, and injured here in its circulation and life, which hastened its death beyond that of other parts when the whole tumour was expelled. The cartilaginous connection of the tumour and womb is also anomalous. They (polypi) are supposed by Dr. Meigs to “consist merely in hypertrophy of some superficial layer of the womb, or else in a hypertrophy of some area of its tubular mucous membrane only, and that the tumour is, in this sense, a part, and a real part of the womb itself, a fibroid growth, partaking of the true nature of the uterine tissue; or if it consists of mucous lamina it will be soft and cellular,” &c. Though this may be a correct view of the primary development and early formation of these tumours, it cannot be supposed that they continue long in structure as simple hypertrophied uterine tissue, but become heterologue by certain changes which take place in their inner growth, modifying their organization variously, and producing in this instance the cartilaginous union of the tumour and womb.

The large size of the neck, which existed in this case, is very unusual with polypous tumours. Doctor Bedford says, “a polypus is a *pediculated* tumour,” &c. Doctor Meigs defines polypus to be “a tumour growing by a *narrow neck*,” &c. Churchill says, they are “attached to the womb by a *neck* or *pedicle*,” &c. Murphy says, “you will have little difficulty in recognizing a polypus when it descends into the vagina so low as to interfere

with labour. Besides the firm fleshy feel of the tumour, it is extremely moveable, and when the head is pressed back in the intervals of pains, its pyriform shape and *long, narrow stem* will be obvious." Such is the description almost uniformly given by medical writers of these "sarcomatous swellings."

Baillie, however, in his *Morbid Anatomy*, says he has seen a polypus, less than his fist, adhering by a neck as large as his wrist. Doctor Samuel Cooper refers to this subject as follows: "Nor will any certainty (in diagnosis) be gained by adverting to the ordinary form of polypus, its enlarged base, and narrow pedicle—since the records of the profession furnish abundant evidence, that the neck of such a tumour is often as large, and sometimes larger than the inferior extremity." A neck as large, or nearly as large, as the body of a polypus, might render difficult an otherwise easy diagnosis, unless we are prepared for such anomalous developments.

The vaginal discharges were profuse, irritating, and of a most offensive character. Dr. Samuel Cooper says, "uterine polypi have sometimes been got rid of by the spontaneous efforts of nature; this has happened when they have been expelled from the uterus, and had their pedicles so strangulated by the cervix of this organ as to make them slough away. This mode of cure, however, is to be considered uncommon, not to be expected, and perhaps not desired." This polypus was disintegrating and dying, as described, and if there had remained any vigour of constitution to resist its morbid irritations, it might possibly "have been got rid of by the spontaneous efforts of nature." But the strength of our patient was well nigh exhausted; and the peculiar excitement engrafted on a constitution, enfeebled and depraved, by the local contact and absorption of the foul and offensive effusions of a sloughing polypus, was too evidently tending to death, to have justified the faintest hope of a successful result in this way. Her condition was a lasting picture of that particular combination of prostration with excitement denominated irritative fever. It seems that the life of the patient, or the accidental death of the tumour, is the only limit to growths of this character. They are parasites, whose vitality, though supplied by the life forces of the human body, is unrestrained by the organic laws which guard the size and growth of natural tissues. The case seen by Dupuytren weighed twenty-

five pounds; and the one described by De Claubry weighed thirty-nine pounds, and was nearly three feet in its vertical diameter. Churchill instances one, excised at the Meath Hospital, which was more than fourteen inches long, and four or five in diameter at the widest part. These enormous developments are necessarily very rare, as their precarious supply of nerve force and blood furnishes occasions for their death, or the death of the patient, long before so great a size is attained.

The difficulties of diagnosis presented by some cases of uterine polypi, are very considerable. Mr. Newnham thinks "it is always difficult, and sometimes impossible, to distinguish partial and chronic inversion of the womb from polypus."

The points of diagnosis in our case are, first, its history:—Mrs. B—— stated that her last labour was easy, and unattended by any unusual occurrence, either in the birth of the child, or the passage of the placenta; that five years from this date, she had the first attack of exhausting hemorrhage, the repetition of which, at intervals, had reduced her to her then pitiable condition; that contractions of the womb were experienced during several of the last attacks, and that the excruciating severity of the last "pains" abated only with the appearance of a tumour in the vagina, between the labia; that leucorrhœa was a constant disease with her in the intervals between "bleedings."

Secondly, the indication from the tumour:—It had but little, if any sensibility; was in a state of partial gangrene; could be traced to its connection with the partially inverted fundus; and had but recently made its appearance.

Lastly, the indications from the uterus:—The conical apex of the partially inverted fundus could be felt immediately within the uterine lips; the os was circular, dilated, and permitted the finger to be passed between it and the neck of the tumour, in its entire circumference; a silver probe could be passed for some distance within the uterine cavity at its lower side; the posterior part of the body rested in the hollow of the sacrum, and the mouth of the womb behind the pubis.

So soon as such arrangements as were necessary could be made, I ligated the tumour; using for this purpose, a wire, passed through a double silver canula. I was careful in the performance of this operation, not to carry the wire within less than three-quarters of an inch of the uterine lips, and to note

that there was no pain when the ligature was tightened. Doctors Willis, Willingham, James S. Sims, and William T. Landrum, were present, and confirmed my diagnosis, as well as the propriety of the operation. There was no fresh disturbance in the case during the balance of the day and night, except some pain in the parotid gland, which had commenced swelling before the operation was performed.

This parotid inflammation I regard as a sequence of the irritative fever, engrafted on a vitiated habit of constitution. It is not an unfrequent attendant of the same condition of constitution in low states of typhoid fever.

I visited the case the day after the operation, and whilst tightening the cord the entire tumour came away. It came away, not at the point constricted by the wire cord, but three-quarters of an inch above the cord, at its point of connection with the womb. Denman speaks of this, as the uniform result of the application of a ligature. Says he, "there is not occasion to fix it (the ligature) upon any precise part of the root or stem, because the part beyond the ligature decays and comes away with the rest, leaving the uterus clear." This is exactly what took place in my case. Its point of separation presented the cartilaginous formation to which we have referred, and had the appearance of having been implanted into the womb, rather than to have grown from its once healthy tissue. I now used an injection of chlorate of potash, combined with warm water and sweet milk, which I directed to be repeated twice a day. Mrs. B. expressed feelings of great local relief, which continued from this time until her death, near two weeks afterwards. She was now given over to the care of my cousin, Doctor William T. Landrum, with confident hopes of an ultimate recovery. But, alas! in this, we were but too sadly disappointed. The irritative fever which might have abated, under sustaining treatment, after the removal of the offensive mass and its irritating emissions from the vagina, received fresh fuel from the progressive inflammation of the parotid gland, developed a short time before the performance of the operation. This continued to increase with fearful rapidity for four or five days, attended at intervals with severe rigors, the intensity of some of which seemed, as if they would cut short the work. The gland suppurated, was lanced, and continued to discharge profusely for eight days, when death closed the scene.

The vagina and womb were examined with a speculum, five days after the removal of the tumour; and as far as could be observed, were rapidly returning to a healthy condition. The discharges lost their offensive character, had become slight in quantity, and did not colour the daily injections. Beside, all local complaint in that region had subsided from the day after the operation, and the patient's attention was entirely engrossed with her distress in the parotid gland. I think, from a review of the whole case, I may safely say, that the operation was successful, and that the patient's death was attributable to the incidental inflammation of the parotid gland and its consequences.

ARTICLE XIV.

Vienna Paste, the best Treatment for Varicose Ulcers and Varicose Veins. By WILLIAM ALEXANDER GREENE, M. D., of Starkville, Georgia.

NOT having recently seen the mode of treating varicose ulcers and varicose veins with *Vienna paste* published in any of our journals, I thought it would not be out of place to call the attention of the profession to this mode of treatment as being not only most efficacious, but least dangerous. The treatment of varicose veins is a practical, every-day subject, but inferior to none in interest for the practising physician or surgeon. In the language of another, "allied as this affection is, externally, to questions of practical surgery, on the one hand, and depending for its causes on relations of the general venous system and general external health, on the other, a wide field of speculation is afforded as to treatment." Various modes of treatment are proposed; the most objectionable is the ligature of the veins. A good deal of the danger of ligature of the veins is found to originate in the fact that the vein is enlarged; and the ligature, when it should go deeper than the vein, will be found to have wounded or transfixed the vein, and caused phlebitis. My short experience assures me of the superior value of the treatment of varicose veins by the caustic issue, or the extemporized mixture of lime and potash. There is no mode of treatment yet discovered, says Mr. Paget, which is entirely free from risk; but he is inclined to the impression that the treatment is most safely

and most effectually conducted by means of the local applications of caustic issues on the surface, which thicken the course of the venous trunk.

I have just treated, successfully, a case of varicose ulcer of the leg, of nine years standing, which utterly incapacitated the negro for labor: he was otherwise apparently active and healthy; aged twenty-eight. His history of the case is, that the veins were varicosed for some time before the ulcer appeared—since which time he has been under every conceivable mode of treatment, by physicians, and in the shape of ointments, lotions, salves, etc., each, in its turn, recommended to him as the most specific thing in the world, but still only making the thing worse. The form of caustic used upon this case (as upon four others I have treated with equal success,) consisted of potassa fusa ℥ij, quick lime ℥i, separately, in powders in small phials, and subsequently mixed with a glass or asbestos rod, at the bed-side with spirits of wine when used. A dozen or two of small pieces of common adhesive plaster are next obtained, each of the size of a penny, a small circular hole cut in each, of the size of a pea. One of these perforated pieces of plaster is placed over each projection or varicose enlargement of the vein, a very small quantity of the caustic paste is next applied with a bone spatula, to the skin over the vein in the circular hole left in the plaster; ten, twelve or fifteen minutes will be sufficient time for the issue to produce its effect, at the expiration of which period the whole limb is carefully sponged with warm water, and all the plasters and caustic washed away. Little else was necessary in this case, as in the general class of these cases, issue merely requiring simple dressing, while the ulcers on the leg went on healing *pari passu*.

As a local application to the ulcer during the action on the varicose vein of the issue, any simple ointment, or black wash is all that is required.

This treatment I have found, in a limited experience, uniformly successful. I do not claim or publish it, *of course*, as original, but merely wish to call the attention of practising physicians to the utility of this mode of treatment. In my section of country, where there are a great number of negroes, whose work is laborious, there frequently occur such cases, and as the case I have mentioned, go uncured, useless to their owners, and

whose existence are a burthen. They can and ought to be cured, unless there is some peculiar constitutional obstruction.

Lectures on Asthma. Delivered at Hotel Dieu, by Prof. TROUSSEAU. Translated from the Gazette des Hopitaux of September 16th, 1858, (for the Boston Med. and Surg Journal).

LECTURE III.—EXAMINATION OF THE OPINIONS OF THE PROFESSION ON THIS DISEASE.

HAVING rapidly pointed out to you some of the causes under the influence of which the attacks of asthma are produced, I proceed to examine with you the opinions which have had, and still hold a place in science as to the nature of this complaint. I shall speak of the opinions of Rostan, Louis and Beau, that I may discuss them and give you my way of considering them, my method of interpreting the facts in the case.

If my honorable colleague, Prof. Rostan, admits to-day the existence of purely nervous asthma, he has not always admitted it. There was a time when he did not believe in this peculiar neurosis of the respiratory organs, and he regarded it as being symptomatic of affections of the heart. Influenced by the recollection of the laborious investigations which he had made on this subject in the case of the asthma of old men, while he was a physician of the Salpêtrière, M. Rostan recognized no difference between asthma and dyspnoea. To him, these two words were synonymous; to me, this is far from being the case. Asthma is, in my eyes, a special, complete malady; it is a manifestation, a particular form of a general condition, having very different local expressions, manifesting itself sometimes by attacks of dyspnoea, of oppressed breathing, constituting asthma, but able, also, to exhibit itself in attacks of articular gout, or gout in a more diffused form, in attacks of gravel, or rheumatism.

It is not the difficulty of breathing which constitutes asthma; for it would be necessary in this case to call by this name the dyspnoea which is symptomatic of diseases of the heart, or great vessels, the violent distress which goes to the verge of suffocation in patients suffering from oedema of the glottis, or children taken with croup. Now there is no one who would not shun such a confusion. Between dyspnoea and asthma the difference is immense. If asthma be a dyspnoea of special form and character, every attack of dyspnoea is not asthma.

Have you ever seen, in an individual affected with disease of the heart, the attack of dyspnoea, which this occasions, to be diminished by exercise? Do you not every day witness the contrary? At will, so to speak, you may bring on an attack of dyspnoea in any person affected with a disease of the heart of

moderate severity. Walking a little more rapidly than usual, the act of going up stairs, are sufficient to bring on an oppression more or less considerable, sometimes bordering on suffocation. These attacks of symptomatic asthma may always come on independently of this cause; they may occur in some persons under the influence of moral emotion, in others without appreciable cause.

But if symptomatic dyspnœa may occur, as well as essentially nervous asthma, without organic cause, it is important, in order to distinguish one from the other, to consider what is their usual course.

The attack of asthma behaves in a similar way to an attack of fever: that is to say, it comes on with a certain amount of delay—sometimes, it is true, abruptly enough; it arrives by degrees at its climax, like all nervous affections, then decreases in the same way, gradually, leaving the person who has suffered from it in a state of perfect health, for a longer or shorter period, until the return of a new attack.

Is this the course, is this character of a dyspnœa symptomatic of diseases of the heart? Assuredly not; in that case the attack is always abrupt, never does the oppression yield so completely; always threatening, it never leaves, after the crisis, the individual in the state of perfect health which falls to the lot of the asthmatic.

The last, his attack over, is no longer exposed to its return under the influence of the slightest emotion, or exercise a little more violent than usual; up to the commencement of an attack, he will follow his usual manner of life without fear of being checked. An individual affected with disease of the heart is always in danger of an attack, which the smallest cause may bring on.

Without doubt, and it is necessary to be on our guard, true attacks of asthma may complicate affections of the heart and lungs. This is indisputable, neither of these classes of disease exclude it.

Let us inquire what takes place here, and return to the more general considerations of which I have often spoken to you.

A woman has a carcinomatous disease of the uterus; she has pains in the loins, pains in the lower abdomen, which increase as it progresses, which are greater during menstruation, during digestion, or in the act of defæcation, and which are exasperated by digital examination: another will have no pain, while a third will have uterine neuralgia, returning every day, rigorously at the same hour, with a periodicity so regular that the patient can foretell its return almost to a minute. In two patients whom I have seen, one with Récamier, the other with my excellent friend, Dr. Lasségen, these attacks lasted five or six hours; in the last patient they had continued for many years. The agony

was atrocious. During the paroxysm, the patient rolled and writhed on her chamber floor. In the interval between the attacks, she only felt a sensation of heat in the organ affected.

In these different cases, whether the pain be permanent or intermittent, the lesion is the same. But in the latter case, there is grafted on it a neuralgic affection; to the cancer is added the painful nervous affection, which it does not exclude.

In the same way, if an individual is affected with a disease of the heart, this does not exclude, in his case, the possibility of asthma. If some patients support the most serious affections of the heart without experiencing symptoms of proportional severity, others suffer most terribly with lesions much less pronounced than the first; in others, still, a nervous disorder may be engrafted on the organic affection; in a word, each individual has, so to speak, his own way of carrying his disease; he may experience paroxysms of a peculiar character, according to his temperament, and it is essential to be acquainted with his paroxysms to be able to separate the nervous element from the organic one which complicates it.

The patient whose autopsy we made on Sunday last, had presented the most marked symptoms of angina of the chest. What is this *angina pectoris*? In a great number, in the greatest number of cases, it is a neuralgia symptomatic of an affection of the heart and great bloodvessels; but in some cases it is perfectly independent of all organic affection of the central organs of the circulation, independent even of all appreciable organic change. It is a true epileptiform neuralgia, it is a form of manifestation of this fearful malady. It has its abruptness of attack, its rapid course, its sudden cessation; it is a kind of epileptic vertigo, and some of those who have at other times had attacks of angina pectoris, have later true attacks of epilepsy.

Nervous disorders, then, may be engrafted on organic diseases, but they are independent of them, and these last are only the occasion of their development. They are independent of them, in the sense that the organic lesion is not ordinarily accompanied by them; and if, to return to asthma, we see it come on in persons affected with diseases of the heart or lungs, it is the evidence of their disease that they had, by nature, the asthmatic diathesis. In them the lesion of the heart, the pulmonary disease, has been the occasion of the development of a malady which has been lying dormant, and which, perhaps, was only waiting for this occasion to manifest itself. S. L. A.

Impermeable Stricture.

M. CHARLES PHILIPS terminates a series of papers upon this subject with the following conclusions: 1. The transformation of tissues produced by urethritis may completely obliterate the canal. 2. Complete obliteration takes place more frequently

after traumatic action than after simple inflammation. 3. It is always complicated with urinary fistulæ. 4. Complete obliteration is perfectly distinct from stricture termed impermeable. 5. This latter always allows a certain portion of urine to pass, either at more or less close intervals, or continuously drop by drop. 6. Wherever urine can pass, a bougie may be always introduced, on condition of our proceeding slowly, patiently, and with full confidence in the power of the instrument. 7. Perforation is the basis of the treatment of complete obliteration. 8. If the obstacle is situated in the straight portion of the urethra, it should be attacked by a trocar, the finger being able to follow and guide this through the tissues. When the obstacle is situated in the curved portion, we should first introduce a grooved canula into the perineal fistula, which may serve as a guide to the trocar passed by the meatus. 9. If retention of the urine is produced by stricture, catheterism should never be performed by means of a metallic instrument. Filiform bougies should be employed, which should be introduced slowly, and after a few minutes withdrawn. Each time a little urine is discharged, with relief to the patient; and when his suffering becomes abated, we may fix the bougie, and the whole of the urine will be discharged over it. 10. If the introduction of the bougie is for the time impossible, and the retention becomes insupportable, supra-pubic puncture of the bladder should be resorted to. 11. If retention is complicated with infiltration of urine, and the introduction of the bougie cannot at once be accomplished, the supra-pubic puncture should be made, as should be large incisions into the perineum. After a few days the tissues will have become sufficiently disorged to admit of new attempts at catheterism. Not being now pressed by the patient's sufferings from retention, we may proceed slowly and cautiously, and we shall traverse the stricture erroneously believed to be impermeable.

[*Brit. and For. Med. Chir. Rev.*, from *Bul. de Thérap.*

On Acupuncture. By Dr. T. OGIER WARD, Kensington.

I HAVE read in the 'Journal' with much interest the lectures of Dr. Brown-Sequard, especially the fifth, which seems to be the most practical, inasmuch as the experiments detailed, proved that irritation, &c., of one part, may be transmitted by reflex action to another more distant part, in the following manner. The irritation is conveyed by an afferent nerve to the nervous centres, and thence is reflected to the more distant part through the sympathetic which, by producing a contraction of the vessels, reduces the hyperæmia of the affected part. In this way Dr. Brown-Sequard explains the benefit derived from the actual cautery in facial neuralgia and affections of the eyes, when ap-

plied to the ear of the same side, or even between the shoulders. A completely opposed explanation of the action of the actual cautery has been recently given by Dr. Inman, in a paper read to the Lancashire and Cheshire Branch; and certainly Dr. Brown-Sequard's experiments, though they establish the facts in some cases, do not afford any explanation why this action of the sympathetic nerves is confined to a part in a morbid condition, and does not extend, at least, so far as can be ascertained, to the whole system. But whether Dr. Brown-Sequard or Dr. Inman be right, *non est meum tantas componere lites*; the object of the present communication is to offer an explanation, deduced from Dr. Brown-Sequard's experiments, of the benefit derived from two operations much less severe than the actual cautery, which, from its formidable appearance, is never likely to be used extensively in this country, at least, in private practice.

The operations I allude to are, the injection of opiates beneath the skin over the nerve affected in tic douloureux, and acupuncture; in both of which, the great and immediate benefit by the cessation of the pain, is to be attributed to the punctures, and not to the opiate injected. I do not deny that the opiate may be absorbed, and produce a certain amount of direct effect on the nerve where this is situated superficially; and the profound sleep produced in some instances must be attributed to the opiate; but in cases where the injection has been successful in deeply-seated pains, I believe we may reasonably ascribe the cure to the simple puncture, especially as we meet with the same results from acupuncture. Hitherto the *modus operandi* of acupuncture has been involved in mystery, but now Dr. Brown-Sequard's discovery of the reflex action induced by counter-irritation, appears to afford at least a plausible explanation of it.

Acupuncture is a remedy that seems to have its floods and ebbs in public estimation; for we see it much belauded in medical writings every ten years or so, even to its recommendation in neuralgia of the heart; and then it again sinks into neglect or oblivion; and it is not unlikely that its disuse may be occasioned partly by fear of the pain, and partly by the difficulty the patient finds to believe so trifling an operation can produce such powerful effects. Another reason for its neglect may be, that, like every other remedy, it fails occasionally, and the practitioner, disgusted at having persuaded his patient to submit to a pain, which, though slight, has been attended with no benefit, will not again undergo such a disappointment. However this may be, its use is not as frequent as it deserves; and now that we know the *rationale* of its operation, I venture to bring forward a few cases in illustration of its remedial powers, in order that others may be induced to give it a more extensive trial, and thus ascertain its true value in the treatment of neuralgic or rheumatic pains.

Case 1.—A middle aged labourer came to me with a chronic rheumatism of the parts about the right shoulder, particularly in the deltoid, which was so painful that he could not raise his arm horizontally. I inserted two needles into the muscle, one just below the head of the humerus, and the other near the insertion of the muscle and in about a quarter of an hour he could lay his hand on his head, and in a few days was quite well, without a second operation.

Case. 2.—An elderly laborer, suffering from rheumatic pain and stiffness of the rectus and other muscles in front of the right thigh, so that he dragged the limb in walking, was enabled to walk without much limping, after the insertion of three needles down the front of the thigh for a period of twenty minutes; and he required no further treatment.

Case 3.—An old clergyman, very liable to sciatica, having been advised to try acupuncture, was in the habit of using daily, previous to dressing himself, two or three needles inserted along the course of the nerve, to enable him to walk down stairs with comfort.

Case 4.—A lady of middle age, suffering so much from lumbago and sciatica, that she could not rise from her chair without assistance, after trying hip baths and mustard poultices in vain, was induced to apply the needles to the most painful parts, when, to her astonishment, the pain was much relieved, and after three applications, was entirely removed.

Case 5.—A lady advanced in pregnancy, similarly affected to the last case, and who had failed in obtaining relief from baths and mustard plasters, used a single needle with complete success, but not without considerable disappointment from the extreme pain produced by the operation. This is the only instance of a complaint of the kind I have met with, as, after the immediate pricking sensation during the passage of the needle through the skin, the feeling is usually like that produced by the strong pressure of the point of the finger on the part.

In none of the above cases was there any constitutional affection, each patient stating that his health was perfect; nor was there any appearance of local inflammation. Indeed my use of acupuncture has always been confined to such cases as the above, and I should not expect that acute rheumatism or neuralgia would be benefited by such means.

In conclusion, I would remark that, though the benefit of acupuncture has been attributed by some writers to a quivering of the affected muscles, which is indicated by a vibratory motion of the needle whilst inverted, such an appearance has never presented itself in any of my experiments upon myself or others.

[*British Med. Jour.*, and *Braithwaite's Retrospect*.

Various Formulæ for the Gelatinization of Cod-Liver Oil.

M. STANISLAS MARTIN'S JELLY MODIFIED.

R. Cod-liver oil,	-	-	-	-	-	-	3 ij.
Fresh spermaceti,	-	-	-	-	-	-	3 ijss.
Simple syrup,	-	-	-	-	-	-	3 vj.
Jamaica rum,	-	-	-	-	-	-	3 vj.

Beat the ingredients together with the aid of heat, and when the mixture has acquired some consistence, pour it into a wide-mouthed bottle.

COD-LIVER OIL, SOLIDIFIED WITH GELATINE.

R. Pure gelatine,	-	-	-	-	-	-	3 ss.
Water,	-	-	-	-	-	-	3 iv.
Simple syrup,	-	-	-	-	-	-	3 iv.
Cod-liver oil,	-	-	-	-	-	-	3 viij.
Aromatic essence.	-	-	-	-	-	-	q. s.

Dissolve the gelatine in the boiling water, and add successively the syrup, the oil, and the aromatic essence; place the vessel containing the entire in a bath of cold water; whip the jelly for five minutes at most, and then pour it, while still fluid, into a wide mouthed glass bottle, furnished with a cork, or with a pewter cap, or if a bottle be not at hand, into a porcelain or earthenware pot, which should be carefully closed.

COD-LIVER OIL GELATINIZED WITH CARRAGEEN OR IRISH MOSS.

R. Fucus crispus,	-	-	-	-	-	-	3 ss.
Water,	-	-	-	-	-	-	3 xvij.
Simple syrup,	-	-	-	-	-	-	3 viij.
Cod-liver oil,	-	-	-	-	-	-	3 viij.
Aromatic,	-	-	-	-	-	-	q. v.

Boil the carrageen in the water for twenty minutes; pass the decoction through flannel; concentrate it until it is reduced to four ounces by weight; add the syrup, the oil, and the aromatic; whip the mixture briskly, having first placed it in a cold bath, and pour it, while still a little warm, into the vessel intended to receive it. The syrup may be replaced by an equal quantity of Garus' elixir, mint or vanilla cream or rum, &c.

M. Sauvan proposes to combine cod-liver oil with Iceland moss.

LICHEN AND COD-LIVER OIL.

R. Iceland moss jelly,	-	-	-	-	-	-	3 iv.
Gelatine,	-	-	-	-	-	-	3 iv.
Hydrocyanated cod-liver oil (to which two drops of essence of bitter almonds have been added)							3 vj.

Prepare the Iceland moss jelly in the usual manner; melt the gelatine and pass it into the vessel which is to hold it; then

add the cod-liver oil; stir the entire with a spatula, until the mixture be homogeneous and the jelly begins to congeal. Dose, two or three spoonfuls daily.—[*Bull. Gen. de Thérap.*, and *Dublin Hospital Gazette*.]

Practical Observations on the Use of the Ecraseur in Polypi of the Uterus. By Dr. ROBERT JOHNS, Member of the Council of the Surgical Society of Ireland, &c.

[A lady, ten years married, but never pregnant, consulted the author last year, stating that during the last two years she had been subject to severe menorrhagia, often passing large clots; and also suffering from severe uterine pain, diarrhoea, sickness, and other symptoms arising from loss of blood. She had a very anæmic, even malignant aspect.]

On making a vaginal digital examination, I found a fibrous polypus, about the size of a chestnut, projecting from the os uteri, which, by very slight traction, was brought down into the vagina; it was attached to the inner and anterior surface of the cervix, about an inch from the os, by a pedicle of about two inches long, and half an inch thick; the os was patulous, flaccid, and dilatable. Having determined to remove the tumour by "ecrasement lineaire," I explained to my patient what I proposed doing, to which she willingly consented, at the same time saying that she would submit to any treatment to be again restored to health. As she expected to be unwell on the day or so following, I deferred any interference until after the period had passed over, but I ordered a tonic mixture, containing the ammonio-tartrate of iron, &c.

September 20th.—The catamenia have ceased for three days. Ordered to have the bowels well freed, and to repeat the tonic iron mixture.

23rd.—This morning I found my patient in a state of great excitement, and very hysterical. Not deeming her a fit subject for chloroform, I gave her some wine, which had the desired effect. Having then placed her in the position for lithotomy—which I considered preferable to any other in such cases, when operating on virgins, on females like Mrs. D., whose vagina is not much dilated nor very dilatable without inflicting much unnecessary pain, or on those whose os uteri is very high up—I then proceeded thus. Having gradually and gently introduced the first two fingers of my right hand into the vagina, and having found the polypus in the position before described, I passed a finger on each side of its pedicle, a little above its insertion into the tumour, and drew it down as near as possible to the perineum; having now replaced my fingers by the chain of the écraseur (which then surrounded the tumour,) I shortened it

until constriction was produced, and removed the polypus *very slowly* and steadily. There was not a drop of blood shed either during or subsequent to the écrasement, nor did my patient experience the least pain. A very trifling vaginal, discolored discharge, caused by the debris of the pedicle, set in that evening, and continued for three days. Cold water vaginal injections having been daily employed, on the fifth day she was up and about her house, and not a vestige of the pedicle could be discovered by the "toucher," but as the os was still very patulous, and felt rough, an examination with the speculum was instituted, when an ulcer was seen extending about two-thirds around the os uteri, which yielded very quickly to a few applications of solid nitrate of silver, when the os closed up to its normal state. This lady called to visit me on the 3rd of December, when in appearance she was greatly changed for the better, as she had regained her natural healthy colour, and had lost the malignant aspect. She stated that her periods had become perfectly regular and painless; she had no vaginal discharge of any description; and, in fact, that she was in better health than she had enjoyed for years.

The following facts, I think, are fairly deducible:—

1. That vaginal hemorrhage, continuing for any length of time, being accompanied by clots of blood, assuming particular shapes, and having been preceded by an increase of flow at the catamenial periods, is strong presumptive evidence of the existence of polypus of the uterus.
2. That the situation of the tumour, whether in the uterus or descended into the vagina, does not seem to exercise any effect in increasing or decreasing the hemorrhage.
3. That the amount of blood lost in this disease is not in proportion to the magnitude of the tumour.
4. That ulceration of the os or cervix uteri is a very fruitful source of hemorrhage in polypial disease.
5. That it is not by any means necessary to draw the tumour externally to the vagina, in order to remove it by linear écrasement.
6. That there is no advantage derivable from écrasing the pedicle high up.
7. That the écraseur is a valuable instrument if properly employed; that is *very SLOWLY* and *steadily*; but, if not, its use is very doubtful, if not hazardous.—[*Dublin Quarterly Journal*.

New Modes of Administering Iodine.

EFFORTS have lately been made in France to administer iodine in a more efficacious manner than had hitherto been done. M. Leriche, of Lyons, has published valuable articles in *L'Union*

Médicale, wherein he endeavors to show that iodine, combined with vegetable substances, advantageously replaces cod-liver oil. He proposes a syrup made of the juice of water-cress and iodine, and also an iodine wine. The syrup has the advantage of not fermenting, and contains exactly one grain of iodine per ounce. The wine is composed thus: Bordeaux wine eight ounces; concentrated infusion of red roses about thirteen drachms; tincture of iodine one drachm and a half. Each ounce contains one grain of iodine. From one to six tablespoonfuls may be given daily, according to the indications and the age of patients. In the space of three years M. Leriche treated 38 scrofulous patients with the wine; 21 were perfectly cured after a treatment steadily pursued for some time; 8 did not improve at all; and 9 improved but slightly, either because the treatment was carried on imperfectly, or because it was left off too soon.

M. Boinet, on the other hand, well known by long-continued investigations respecting the use of iodine, read on the 28th of September last, before the Academy of Medicine of Paris, a paper, in which he proposes to use iodine as an article of food. The author administers iodine as found in nature, viz., combined with those plants which contain the greatest quantity of the alkaloid. The latter being thus given in minute doses, in a continuous and almost imperceptible manner, yields most advantageous results. M. Boinet uses fuci, marine plants, cruciferae, salts containing iodine, and some mineral waters holding iodine in solution. His excipients are ordinary bread, ginger-bread, cakes, biscuits, chocolate, wine, beer, syrup, &c., some being especially calculated for children. Trials were begun by M. Boinet as far back as 1849, upon subjects suffering very severely from the various well-known scrofulous symptoms, and most of them were cured after continuing the iodized food for several months. The author has not found that iodine administered for a long time produced a loss of flesh and atrophy of certain organs. Far from having these effects, the iodine, in his hands, has invigorated patients, and favored the development of organs, Messrs. Chatin and Trousseau are to report upon the paper.

[*American Jour. of Med. Sciences.*

On the Internal Treatment of Ulcers of the Leg by Iodide of Potassium. By M. TRASTOUR.

WITHOUT reviewing the theory of an "ulcerative diathesis," advanced by Phil. Boyer, M. Trastour is of the opinion that ulcers of the leg are owing as often to a general disposition of the economy, as to local causes, and this opinion seems to him justified by the success which he has obtained from iodide of potassium in the treatment of these ulcers. Repeated observations permit him to draw up the following propositions:—1.

Iodide of potassium, administered in a dose of two to six grammes a day, cures the most obstinate ulcers of the leg in one or two months, rarely more, no matter whether they are of syphilitic nature or not. The ulcers, and even the varicose congestion, yield rapidly to this medication, which may be assisted by regulated compression and a simple dressing. 2. The patients can continue their occupation during the treatment; they do not require rest. 3. The cure by this simple method is easier, more complete and reliable, than by any other known method.

There are however a certain kind of ulcers which require a special and more complex treatment; these are the scorbutic, herpetic, and scrofulous ulcers. Of ulcers which did not present one of these peculiar characters, M. Trastour reports several cases which speak highly in favor of his mode of treatment. The modification which takes place in the ulcers by the use of iodide of potassium may perhaps be explained by supposing that this salt, which passes rapidly into all the secretions, passes also into the ulcerous secretion. Brought in contact with the ulcers from within to without, it modifies them, molecule after molecule, that is to say, as completely as possible; at the same time, it acts upon the surrounding congestion, and upon the whole constitution.—[*Journal de la Société Académique de la Loire-Inférieure*, and *North American Med. Chir. Review*.

Intestines of a Pig, which, for six weeks before death, had been fed with "Typhoid Dejections."

DR. MURCHISON exhibited these to the Pathological Society of London, and observed that although it was generally admitted that the true typhus fever is eminently contagious, many still entertained doubts as to the contagious nature of the so-called "typhoid fever;" yet it was difficult to explain in any other way, the facts which had been adduced by Bretonneau, Gendron, Piedvache, and others. Some observers and more particularly Dr Budd, of Bristol, and the late Dr. Snow, had thought that typhoid fever was propagated by the dejections from the bowels. Without questioning the validity of this supposition, Dr. Murchison expressed his belief that many of the facts which had been urged in its support might be explained on the hypothesis of a spontaneous origin of the fever from the putrid emanations from the drains, which had been thought merely to convey the poison. All those who had considered that the fever might be communicated by the dejections had been strong opponents of the possibility of its spontaneous origin. It was obviously of great importance, both in a medical and a sanitary point of view, to determine whether fever might be communicated in the manner just alluded to. The experiment had been

undertaken in order to throw some light upon this question; and its results were offered simply for what the results of one experiment might be worth. A pig had been selected for the experiment for the following reasons: 1. Because in its diet it approached most nearly to man; and it was thought that less difficulty would be encountered in making it submit to the experiment than with other animals. 2. There were few or no animals in which the structures that became specially diseased in typhoid fever, viz. Peyer's patches, were so well developed. 3. Because there was evidence that the pig was liable to typhoid fever. Cases of the disease, in this animal, in which the characteristic lesions had been found after death, have been described by Falke and other writers on veterinary medicine. The pig selected was between three and four months old. Care was taken that the dejections were obtained from typhoid patients in whom they presented the light ochrey colour peculiar to the disease in the most marked degree; they were mixed up with barley-meal and other articles of food. The first was given on Sept. 9th, 1858. For the first three weeks one was given every day, or every second or third day. During the next fortnight, two or three were given every day; and, during the last week, one every second day. They were eaten greedily. On two different occasions, during the first fortnight, the animal had slight diarrhœa, lasting for twelve hours, and its ears felt rather hot; but these symptoms speedily subsided. With these exceptions, the animal exhibited no abnormal symptoms; its stools were of normal consistence, and it increased greatly in weight and size, as was shown by measurements taken at the commencement and at the termination of the experiment. On Oct. 23d it was killed, and its body opened. There was abundance of subcutaneous fat, and the muscular tissue appeared healthy in every respect. The intestines throughout were healthy. There was not the slightest trace of any recent or old ulceration anywhere, nor of any thickening or alteration of Peyer's patches, or of the solitary glands. The mesenteric glands were not enlarged.—[*London Lancet*.

On the Use of Ergot in Certain Diseases of the Eye. By Dr. V. WILLEBRAND.

The known effect of ergot upon the unstriped muscular fibres of the uterus, and upon the analogous tissues of the walls of the blood-vessels, induced Dr. V. Willebrand to try this remedy in several forms of diseases of the eye, in which he supposed that the evil could be cured by exciting a greater contractility in the walls of the blood-vessels, or in other tissues containing unstriped muscular fibres. The greatest benefit from the adminis-

tration of ergot, the author derived in those disturbances of the function of accommodation, described as *hebetudo visus*, (asthenopia), in which the eye can accommodate itself only for a short time sufficiently to occupations near to the face, (reading, writing, sewing, etc). Dr. V. Willebrand met serious cases of this kind, particularly among the pupils of young ladies' seminaries, who are generally exposed to unfavorable conditions of ocular hygiene, such as writing with the body bent forward, and with insufficient light. The author cured all these cases, at least for some time, by the exhibition of ergot; at the same time he ordered the eyes to be spared, and spectacles dampening the light to be used. The author used the remedy successfully also in a case of epophthalmus with hypertrophy of the heart and of the thyroid gland, (a peculiar combination which has been lately much discussed), and in blepharitis, and pustular syndermitis of children. As the usual dose for adults, he prescribes five grains of ergot, generally combined with magnes, carbon., sometimes, if chlorosis is present, with iron, to be given three or four times daily.—[*Archives für Ophthalmologie*, and *North American Med. Chir. Review*.

On the Treatment of Syphilis in Pregnant Women. By. M. E. BERTIN.

AMONG the facts which have contributed the most to make the employment of mercury during pregnancy objectionable, and to diffuse the opinion that this medicine easily produces abortus or death of the foetus, those which M. Colson has recorded in his memoir, "*De l'influence du traitement mercuriel sur les fonctions de l'uterus*," (*Archives Générales*, tome xviii. p. 24,) deserves especial notice. M. Bertin has subjected these not very numerous observations to a critical analysis, which shows peremptorily that not one of them has the demonstrative character which has been so readily attributed to them. He mentions then a remarkable case of Moriceau, which shows that mercury not only does not cause abortus, but that it may even prevent it, (*Des maladies des femmes grosses*, etc., 2d edit., p. 179), and reports the history of eleven pregnant women who were treated in the *Maison de Secours* of Nancy. This is the complete series of all the cases which have presented themselves during the first four months of the year 1857.

All these patients, in whom pregnancy was more or less advanced, suffered from secondary symptoms, and were treated with pills of protiodide of mercury, or with the liquor of Van Swieten. Out of these eleven women, eight were delivered at term of living children, and their pregnancy had followed its natural course during their sojourn in the hospital; one of them

was subjected to two mercurial treatments while she was pregnant, and did not experience any bad consequences. In the three other patients the pregnancy did not reach its term; but it is more than probable that the mercury had nothing to do with this result. In fact, one of these women was delivered of a dead child in a state of putrefaction, the movements of which had ceased to be felt before the mother entered the hospital. The second had miscarried already twice before she contracted the venereal disease, and it is possible the third abortus took place under the same influence as the two others. The last patient was delivered of a living child of seven months, upon which, consequently, the mercurial treatment could not have acted in a fatal manner.

M. Bertin concludes, from these facts, that mercury does not exert a fatal influence upon the human foetus, (contrary to the opinion of Professor Trousseau), and admits, with Ricord, "that the period of pregnancy, far from opposing the employment of energetic measures, demands still more attention and judicious promptitude."—[*Compte Rendu des Travaux de la Société de Médecine de Nancy*, and *Ibid.*

Inutility of Depletion in Syphilitic Iritis.

MR. J. HAMILTON, Surgeon to the Richmond Hospital, states (*Dublin Hospital Gazette*, May 15, 1857) his belief "that in the treatment of syphilitic iritis, even the most acute cases, all that is necessary to be done is to administer mercury properly, suited to the constitution of the patient, and the nature of the case, and till full salivation; and the application of the extract of belladonna round the eye, or of the solution of atropine in the eye. I totally disagree with those authors—Mr. Tyrrell, for instance—who recommend, in cases where the patient is broken down, to administer tonics, &c., till he is able to bear the mercurial course, the real fact being, that the best tonic is the mercury, combined with opium, which by expelling a depressing poison from the system, invigorates it, at the same time that it arrests the ravages of a destructive specific disease; whereas, while waiting for the effects of tonics and diet, the eye may be lost. There could not be, apparently, more feeble or depressed subjects than No. 3, Mary Byrne, or No. 4, John Callaghan, particularly the latter, who was literally nothing but skin and bone, with a pale sallow face, contrasting with the large red tubercles with which it was studded, and so weak he could scarcely stand; yet, under the beneficial action of the mercury, while the eye was saved, his flesh, strength, and complexion, all became rapidly restored, so that in his last letter to me, he describes himself, in language more remarkable for strength than orthography, 'as strong as a boss, and as fat as a wheal!'

"Many surgeons do not deplete, but the large majority still do, by leeching and cupping; rarely, I believe, in this country, by venesection, as recommended by Mr. Mackenzie. During fourteen years, a very large number of cases of syphilitic iritis have been under my care in the Richmond Hospital, and I have only cupped in one case; and with my present experience, I am sure if that case presented itself now, I should not do so."

As this is one of those practical questions best decided by facts, Mr. Hamilton quotes five cases from his case-book in support of his views. One of these cases we quote:—

"John Callaghan, æt. 24, transmitted into No. 4 ward of the Richmond, from the Whitworth Hospital, February 26th, 1857. He is one of the city police, and was once a stout powerful man, but is now sickly-looking, sallow, and emaciated. A thickly scattered eruption of tubercles over the face, on the eyebrows, sides of the nose and chin. He became infected with syphilis about ten months ago, and has since suffered from pains in his bones, sore throat, and eruptions, with rapid decline of health and strength. He has taken mercury irregularly. Ten days ago the right eye became tender and inflamed, and quickly got very bad. His only treatment has been one leech and a blister to the temple, and bark mixture; but he had taken no mercury for a month.

"The right eye is affected with acute iritis; the sclerotic of a deep dull red, most marked round the cornea; the conjunctiva also is traversed by many large red vessels; the iris of a dull yellowish-gray, contrasting with the clear bluish-gray of the other eye; the pupil hazy and irregular, adhesion existing at the lower and outer rim, where the iris is of a dull reddish-brown, as if a tubercle was about to form there; the pupil is nearly as large as the other, perhaps slightly affected by the extract of belladonna which was applied last night; sight very much injured—though he can see me in a bright line at three feet, he cannot discern a feature of my face; intolerance of light, and some lachrymation; pain in the brow, extending to the eyeball and temple, begins at ten o'clock at night, and lasts till one o'clock, A.M. Submur. hydrarg. ʒj, opii gr. ij, in pilulas x.

"Third day. Eye somewhat clearer; the deposition of rusty-colored lymph appears less; not so much pain last night. He has taken eight pills, but no perceptible effect on the mouth, nor any griping. The belladonna has had no influence on the pupil.

"Fifth day. The mouth is sore, and there is some griping. The eye is better, and he can distinguish my features, and the studs on my shirt. To take a pill night and morning.

"Seventh day. Mouth fully sore; a very decided improvement in his vision, and the appearance of the eye; the iris clearing, and the rusty lymph absorbing; pupil clear and black, and

the redness much less. He bears light better; no nocturnal pain of the brow the last two nights; the eruption of tubercles on his face and body are fast disappearing.

"On the twelfth day the eye was not so well, more vascular and uneasy—evidently an attempt at a relapse. By increasing the quantity of mercury for two days, he got better; all traces of the iritis afterwards entirely disappeared.

"On the twenty-second day, having been quite well for several days, he requested his dismissal, wishing to go to the country. I had a letter from him a few days since, saying that he had regained strength and flesh, that the sight of the eye was as good as ever, and no traces of the eruption existed. He had continued to take the mercury so as to keep up the mercurial action in the system, altogether for about ten weeks."

[*American Jour. of the Med. Sciences.*

Obstinate Hemorrhage following a division of the Frænum Linguae.

By A. REEVES JACKSON, M.D., of Stroudsburg, Monroe Co., Pennsylvania.

HAVING occasionally seen reported in the medical journals, cases of fatal hemorrhage from the division of the frænum linguae in children, I am induced to relate the following case, in which a very simple contrivance was entirely successful in checking the bleeding, after an operation of this kind.

Some years ago I was called to see an infant, aged eight months, son of Mr. S—, near White Haven, Pa., in consultation with Dr. H., under the following circumstances. Thirty-six hours previous to my arrival, Dr. H. had divided the frænum linguae, and the wound had been bleeding ever since, all the efforts that had been made to check it having been unavailing. Dr. H. was not present when I reached the place, but in a note which he had left for me, he desired me to do what I could for the little patient, and stated that he had already used, unsuccessfully, cold applications, a variety of styptics, lunar caustic, the ligature, and the actual cautery.

The child was already very greatly reduced, from loss of blood, which was continuing to ooze out from the cut edges of the wound.

I procured from the father of the child (who was a deer-hunter), a few buckshot, and flattened two of them out into disks, or round plates, by means of a hammer, using the side of an axe as an anvil. I then pierced each of these through the centre, with a common sewing needle. Then taking a piece of annealed silver wire from a double canula in my pocket-case, I tied a knot on the end of it; and having split, with a pocket-knife, half way through another shot, placed the wire in the bot-

of the slit, the sides of which were then firmly pressed together with a pair of tonsil-forceps, care being taken at the same time to draw the knot, on the end of the wire, close to the shot. The free end of the wire was then passed through the hole in one of the plates, which was drawn close against the shot. The other plate was now passed up to within a quarter of an inch of the first, and a second shot, previously split like the first, placed against it, but not pressed so tightly upon the wire, but that it could be moved with a moderate force.

My instrument, which, it will be perceived, formed a clamp, was now ready to be applied, which was done in the following manner:

The father, having taken the child in his lap, and held its mouth forcibly open, I applied the instrument in such a way, that the whole of the cut frænum was brought between the flat surfaces of the two plates. The second shot was now pressed strongly against the outer side of its corresponding plate by means of forceps, and by pulling, at the same time, upon the free end of the wire. The plates were in this manner brought closely together, and were kept in their position by pressing together firmly, the split in the second shot. The bleeding was immediately controlled, and nothing remained but to cut off the end of the wire, close to the shot.

The child was then allowed small portions of wine-whey, every two or three hours; and, at the end of about twenty-four hours, when the clamp was removed, there was no return of the hemorrhage.

I think, in case of emergency, the wire might be replaced with a piece of stout linen thread, although the former is certainly preferable.—[*Am. Jour. Med. Sciences.*

Hysterie Condition of Joints. Mr. BARWELL read before the Medical Society of London (November 15, 1858) a paper on this subject.

THESE affections, the author observed, are not rare, especially amongst the more luxurious classes, and they have often been mistaken for actual joint diseases, when blisters and issues, increasing the evil, have been applied, or even more heroic and disastrous treatment adopted. It must be confessed that the literature of the subject, and the cases collected, are meagre and unsatisfactory, and, therefore, this paper is intended to present a concise, yet detailed sketch of the disease, and of some new points in its treatment.

Although in a malady so Protean as hysteria, no short description of invariable symptoms can be given, yet two peculiarities may be fixed upon as especially characteristic; and these

are, the absence of the ordinary signs of inflammation, and "anomaly." One may be inclined to add to these symptoms, the hysteric condition; yet, though such condition is present in many cases, it is in others quite absent, or so slightly marked as hardly to exceed the ordinary mobility of the feminine character. When hysteria breaks out in the paroxysm, it is usually satiated by that manifestation, and produces no such serious effects as a pseudo malady; indeed, the imitative tendency of hysteria is often checked by a regular fit, and a simulated disease may occasionally thus end; but, in other cases, the imitation may continue uninterrupted by any other hysteric symptom, and we are then thrown for our diagnosis upon a purely local investigation. Let us first take the knee, as the more frequently affected joint. The pain is, in some cases, so severe as to make the patient hold her leg constantly semi-flexed and immovable; in other cases, it is so slight that the patient, though complaining, walks about. The pain is not in direct, but rather in inverse, ratio with any other hysterical symptom. It may be increased at the menstrual period. It is generally referred to a spot on either side of the ligamentum patellæ, and is increased on the slightest touch at this spot, but especially if a piece of the subcutaneous fat here situated be pinched. In other cases, the tenderness is spread over a larger space, but is always superficial. The articulating surfaces are not tender; they may be forced together, by pressing the foot upward, without producing pain. In the severer cases, when the knee is kept fixed, the surgeon, if he attempt to change its position, will feel the muscles of the limb thrown into strong action. A striking characteristic is the absence of heat about the affected joint—it feels quite as cool, and sometimes, the author is inclined to think, even cooler than the other. Swelling, in any marked degree, is absent in cases of knee-joint disease; if measurements be taken, the swelling will be found greater than is ordinarily supposed; but the hysteric knee, when not inflamed by irritant treatment, is seldom swollen, and never more than about three quarters of an inch. The swelling is tegumentary merely; the healthy parts may be felt beneath.

When the disease affects the hip, it is, by a skilful eye, even more easily detected. When the patient is lying down, the limb is drawn up, the knee bent, and there is great superficial tenderness over the whole haunch, hip, and thigh, but no pain on pressing the articular surfaces together from the heel upwards; if the joint be not moved, there is no greater heat on that side than on the other. If the surgeon, by perseverance, get his patient to stand he will observe a marked twisting of the pelvis, in part an imitation, in part exaggeration, of the position assumed in hip disease. The glutei may be felt in strong action and the nates, instead of being flat, on that side are protuberant. Swell-

ing is hardly to be measured at the hip, because it is surrounded by muscles whose greater or less action must alter the dimensions of the part. That creaking of certain joints which sometimes comes on with puberty may gradually become more fixed, till it settle down into hysteric joint disease; therefore, there sometimes accompanies this malady, a parchment-like crepitation, which is easily distinguished from the crepitus of rheumatic arthritis. Besides these signs, it must be remarked that an hysteric patient has not the worn aspect of one whose cartilages are ulcerating.

Now, the peculiarities of hysteric disease impress upon the local complaint a quality of unreality which requires some examination. It is not to be supposed that these patients willingly deceive their medical attendant, nor that the pain complained of has no real existence; but it is not produced by a local condition—the malady is centric, not eccentric. Hysteria has, perhaps, been too much regarded as the *bête noire* of medicine, connected with an obscure and sometimes undiscoverable menstrual disorder, and therefore, to be treated with iron and emmenagogues, and such like medicines. Yet, in truth, though the disease may be originally produced by the circumstances and conditions of woman's life, it soon becomes independent of uterine action or inaction; it becomes a neuropathy which can be called forth by the feelings and imaginings of the patient, who is more or less aware of the power she exercises over her condition, and believing her sufferings real, is yet delighted to direct them by such mental acts. Thus the malady must be treated on other principles than such as would follow a mere uterine pathology. Great harm is done by the indiscriminate use of steel, ethers, aloes, &c., which are often given when a lower diet and more exercise would much better cure the disease. If, however, the above view be correct, the treatment must rather be directed to the cerebral condition which produces the neuralgia-like pain, and which has the faculty of swaying the disease by its own emotional state; for it must be evident, from that view, that if this emotional state can itself be dominated, the disease will be governed with it; if the patient's faith can be so far mastered as that she shall fully expect to be cured by any given proceeding at a certain time, she *will* be cured by that method at the time specified. The author has tried several means whereby, the patients' confidence having been sufficiently gained, he could call away their attention from the part affected *to some distant spot*, in which a disorder working its own cure had been artificially produced. Of all such means, a seton seems in most instances the best; this is to be made of a single ligature (silk) set in at a distance from the affected joint, and embracing only a small portion of skin. The placing of a seton is sufficiently painful and like a surgical operation to attract

strongly the patient's attention, and yet not so much so as to be cruel or greatly repugnant to her feelings. Another advantage is that, besides a distinct beginning, it has a certain end which the patient is to watch; and if she believes, as can well be managed, that as the seton works through the skin she will get better, and when it comes quite away she will be well, the result is certain to follow her belief. Mr. Barwell read several cases which he had thus treated, and quoted in support a case in which Mr. Hancock, by giving a patient thus affected chloroform, and performed a mock operation, had produced a cure. He observed, in conclusion, that the most essential points were—to be quite certain in the diagnosis, to master the confidence of the patient, and to place the seton or other agent at a sufficient distance from the part affected.—[*London Lancet*.

Ophthalmia of New-born Children Treated by Chloride of Zinc and Glycerine. By Dr. MACMILLAN, Hull, Eng.

CASE.—A child seven days old. On examination eyelids very much swollen and glued together; on opening thick white fluid escaped from both eyes. Inside of the eyelids of the right eye very vascular and considerably swollen, so much so as to render the examination of the cornea very difficult, at lower margin of which a small white spot as if pus were effused between the lamellæ of the cornea was observed. General haziness of surface of cornea also present.

The left eye presents cornea clear, conjunctiva vascular, purulent discharge thick and very copious.

The chance of recovery of right eye was held out to the parent as extremely doubtful. The following drops to be applied three times a-day by the aid of a camel-hair brush:—Five grains of chloride of zinc to be well triturated in a glass mortar, with half an ounce of glycerine. During the day frequent ablutions of the eyes and application of pure glycerine.

On the following day the mother states that the child had rested better during the night; the discharge of matter was much less, the swollen condition of the eyelids had decreased considerably, and the right cornea was easily exposed to view; onyx still present as also haziness of cornea.

Next day much improved; child opens her eyes and looks about; still some purulent discharge; onyx of right cornea considerably less; surface of cornea much clearer; inner surface of eyelids less vascular; continue the application and sulph. quinine $\frac{1}{4}$ maneque nocteque.

Seen two days after; eyes all but well; onyx in right cornea completely gone; little or no discharge; general appearance and health of child much improved. Discontinues the application

of the chloride of zinc, but apply occasionally during the day a little glycerine by the aid of a brush.

Many cases attended with a similar result might be brought forward, but the above will be sufficient to direct attention to the employment of chloride of zinc.

It cannot be denied that the strong solution or nitrate of silver is generally quite sufficient to cure this disease when had recourse to, even in the more advanced stages; but its employment is attended with two or three disadvantages.

In public and private practice it is too frequently found that this disease is neglected or treated with some useless remedy, as a little of the mother's milk, simple cerate, &c.; and that the little patient is brought to the medical attendant after the lapse of two or three weeks, at which period, to use the words of that eminent surgeon, Dr. Mackenzie,—“I open the lids of the infant with the fearful presentiment that the vision is lost, and but too often I find one or both of the cornea gone, and the iris and humours protruding. In this case it is our painful duty to say there is no hope of sight.”

Let us suppose that the case is not quite so bad, that the symptoms and conditions of the parts are similar to the case narrated, that an onyx is formed on the eve of bursting, a little delay and loss of vision is inevitable; you order the nitrate of silver to be applied to the eyes every six hours; you urge upon the parent the necessity of washing the purulent discharge from the eyes, and request her to bring the child on the following day. She does so. On examining the eyes you find little or no improvement, in the majority of cases decidedly worse; you are surprised. On cross-questioning the parent or nurse, you will find that the drops have not been applied; that the child cried so much, appeared in such agony; that a few drops were spilt on the child's cap, or other portion of its dress; that the characteristic stain of the nitrate was observed; that some busy neighbor, not unfrequently the one who treated the child's eyes before it was brought to the medical attendant and glad to supplant him in the confidence of the parent, says it is “caustic,” the “Doctor is going to burn the eyes out,” &c., &c. The poor mother, ignorant of the true state of matters, and moved by maternal affection, hesitates, and ultimately resolves not to repeat them, the consequences of which may be easily conceived, the little time for a chance of cure has passed, the sight, perchance, of both eyes is gone, and the one application has sufficed to establish the medical attendant's reputation for “burning eyes out.”

Go to any dispensary, ask the parent of that child with staphylococci how the child lost its sight, the answer in nine cases out of ten will be the following: “A blast of cold shortly after birth, and the doctor burnt the eyes out with caustic.”

Now, in the chloride of zinc with glycerine, we have a remedy as effective as the arg. nit., and not attended with such disadvantages. It would appear that the use of glycerine alone has a beneficial effect as a lubricant, and at the same time diluting the purulent discharge, and consequently diminishing its irritating effects on the adjacent parts. Not a few cases observed at the first day or so have been cured by the use of glycerine alone. I hope at a future period to be able to give some results of its use in the treatment of gleet, for which I have no doubt it will be of service, seeing that the disease and the parts implicated are very much alike in both cases.—[*Med. Times and Gaz.*

Changes produced in the amount of Blood-Corpuscles by the administration of Cod-liver Oil. Dr. THEOPHILUS THOMPSON read (Nov'r 18th, 1858) a paper on this subject before the Royal Society.

THE author had presented to this Society, on the 27th of April, 1854, a communication descriptive of the chemical changes produced in the blood by the administration of cod-liver oil and of cocoa-nut oil, and advanced the conclusion, deduced from chemical analysis, that any favorable result derived from the use of these oils is associated with an increase in the proportion of red corpuscles. The present communication was an extension of the inquiry, but was confined to experiments on the influence of cod-liver oil on the blood. It comprehended the principal details regarding fourteen patients affected with pulmonary consumption in various stages of progress, and the result of analyses of their blood. In two instances no oil had been given; in the remaining twelve that medicine had been, more or less, freely administered, and an obvious contrast was noted in the condition of the blood, the proportion of red corpuscles to a thousand parts of blood in the two cases where no oil had been given being respectively 98.20 and 119.64, and in ten of the other patients varying from 142.32 to 174.76. In these ten cases the use of the oil had been attended with marked gain in weight and other evidences of amelioration. In another instance, in which the disease advanced, and a loss of seven pounds in weight occurred, notwithstanding four months' administration of oil, the proportion was 114.39. In one example only was a favorable effect of the oil accompanied with a low proportion of corpuscles, viz. 84.83; but in this patient, hæmoptysis, so profuse as to endanger life by increasing the poverty of the blood, had apparently modified to some extent the ordinary influence of the remedy. The analyses was conducted by Mr. Dugald Campbell in the following manner: The whole quantity of blood abstracted having been weighed, the coagulum was drained on bibu-

lous paper for four or five hours, weighed, and divided into two portions. One portion was weighed, and then dried in a water oven to determine the water. The other was macerated in cold water and it became colourless, then moderately dried, and digested with ether and alcohol to remove fat, and finally dried completely and weighed as fibrin. From the respective weights of the fibrin and the dry clot that of the corpuscles was calculated.

Dr. Copland observed that consumption is a disease which tends to produce a continual waste of blood-corpuscles, and that whatever promotes nutrition and excites the vital forces must have a beneficial tendency in such a disease; for with improved assimilation, there must evidently be a renovation of blood-corpuscles. On this principle, cod-liver oil, he believed, would be found efficacious in anæmia and rickets as well as in consumption, although he was not sure that it had any particular advantage over iron as a remedy.

Dr. Garrod thought that any future researches on this subject would be still more valuable if the analyses were rendered more specific, by ascertaining the proportions not only of the red corpuscles generally, but also of the constituent parts of the corpuscles. Without such information, it was difficult to explain the fact that cod-liver oil is so far more useful in consumption than in anæmia; and it would be desirable to determine the amount of change produced by such a remedy in the proportion of hæmatin, globulin, iron, and fat, entering into the composition of the blood-cells.—[*London Lancet*.

On Two New Methods of Treating Diseases of the Lachrymal Sac.
By Dr. V. GRAFE.

IN one of the sessions of the *Society of Berlin Physicians*, (July,) Dr. V. Gräfe reported on two new methods of treating affections of the lachrymal sac, which he considers a decided progress in ophthalmic surgery. One of them was proposed by Bowman, and has for its object the restoration of the permeability of the lachrymal passages by methodic dilatation. It differs from all the known methods of dilatation in the point that the lachrymal sac is not laid open through the skin, but that the instruments are introduced from the mucous membrane through the inferior punctum lachrymale, which has been previously dilated by slitting it. Although an experience of only four months does not permit any positive statement on the permanency of cures thus obtained, Dr. V. Gräfe does not hesitate, even at this early moment, to pronounce Bowman's method the best of all used for the restoration of the lachrymal passages.

The second innovation was proposed by Dr. Taignot, and has the opposite indication in view, viz., to destroy the lachry-

mal passages. Believing that the entrance of tears rendered the obliteration of the lachrymal sac difficult, Tavignot recommends to cut off the puncta lachrymalia, in order to prevent tears passing into the sac. The idea itself is correct, but the obliteration of the lachrymal canals is not effected with certainty by the process recommended. Von Gräfe uses other means, for instance ligation with a suture, gradually cutting through, or cauterization by means of a small *portes caustiques*, which are introduced into the lachrymal canals. Dr. Leibreich, who assisted in Gräfe's clinic, conceived the idea of coating Anel's probes with nitrate of silver; in order to make the caustic adhere, the probes were first rendered rough by exposing them to the action of nitric acid; thus prepared, they were dipped into fused nitrate of silver. Any silver instrument can be converted by this process into a caustic body. After permeability of the lachrymal canals is obtained, the obliteration of the lachrymal sac is easily effected by gentle caustics. The hot iron, chloride of zinc, Vienna paste, etc., which often produce circumscribed caries, can be dispensed with.

By these two innovations the old contest between destructive and conservative surgery, in the treatment of diseases of the lachrymal sac, has been revived. According to Dr. V. Gräfe's opinion, the following rules are to be observed in regard to the indications:—1. In every case in which circumstances offer the prospect that perviousness may be permanently restored, the surgeon should endeavor to obtain it by Bowman's method. 2. In cases where the restoration of permeability is problematic, and could only be obtained by a tedious cure, it must be ascertained whether the lachrymal glands of the patient, after removal of all causes stimulating them to excessive secretion, furnish a relatively great or small quantity of tears. Dr. V. Gräfe gives the necessary rules for making this estimate. In cases in which the quantity of the secretion is small, obliteration, after cauterizing the lachrymal canals, is preferable to restoration of the continuity. No stillicidium lachrymarum remains in this case. If, however, the quantity of the secretion is large, Bowman's method should be first tried, for fear that the stillicidium might remain; only if it is impossible to obtain a permanent cure by this means, the lachrymal sac should be obliterated. Dr. V. Gräfe communicates the following statistical results in reference to this operation:—Of one hundred patients in whom the lachrymal sac has been successfully destroyed, twenty suffer of permanent and troublesome overflowing of tears; seventy are molested neither at their work nor in the room, but experience increased moistening in open air, or if excited to tears, etc.; ten finally do not notice any difference from the normal eye. 3. In cases of caries, organic obstructions, etc., in which there is no prospect for restoration of the continuity, the lachrymal sac

should be at once obliterated, as in any case the condition of the patient is ameliorated by this measure. Thus the troublesome suppuration is not only done away with, but some of the principal causes of the hypersecretion of tears are also removed, and in consequence of it the stillicidium is proportionately reduced. —[*Allgemeine Medezine. Central Zeitung, and North Amer. Med. Chir. Review.*]

Observations on the Treatment of some of the Symptoms of Syphilis.

By M. HERVIEUX.

1. *Phagedænic Chancre*.—M. Hervieux observes that it is very natural that a disease which produces such rapid local destruction should have been met by means rivaling it in energy and celerity of action, such as the butter of antimony, the various forms of caustic, the actual cautery, etc. But although all those means have been successful in some cases, it is certain that they have still oftener failed, or they would not have been so generally abandoned. There is one means, however, which in the hands of M. Ricord, has proved of indubitable advantage, viz., the *carbo-sulphuric paste*, prepared by mixing sulphuric acid with powdered vegetable charcoal in sufficient proportions to form a semi-solid paste. When applied to the chancre this soon dries, forming a black crust, which intimately adheres to the tissues, and only falls off after several days, leaving a clean sore, or even in some cases, a cicatrized surface. In the authors practice, pure *tincture of iodine*, applied at the commencement, has proved to be the best means of arresting the progress of the disease. It induces generally a burning pain, the intensity and duration of which are in proportion to the extent and depth of the chancre, as also to the sensibility of the individual and of the parts affected. Very well borne by some patients, the pain induces in others the most horrible torment. Chloroform would in such nervous and irritable subjects save this suffering. The pain, upon an average, lasts half an hour. In simple, uncomplicated cases, two applications, made by means of a pencil, after an interval of 24 hours, generally arrests the progress of the disease into the blood. If, however, the chancre be complicated with gangrene, hospital gangrene, or diphtheria, four, five or even six applications may be required. But when two or three of these seem to be without any effect, there is no use going on with the iodine, and a solution of nitrate of silver (five parts to thirty) should be substituted. When the iodine treatment has been followed, M. Hervieux has never known the worst form of phagedæna persist beyond a week.

2. *Suppurating Bubo*.—The author has never himself treated bubo by small, single or multiple openings, but he has met with

cases which have been so treated, and which two or three months afterwards, have exhibited fistulous tracks, extensive detachment, thinning and changes in the skin, together with an utter indisposition to heal. After waiting two or three weeks in vain for the spontaneous closure of these fistulæ he has had to lay them freely open. The prevention of deformity by these small apertures, as proposed by Vidal, is frequently not attained, for not only may fistulous tracks become established, but the apertures themselves may become transformed into chancreous ulcerations. As a general rule, M. Hervieux makes a large opening, and that as early as possible, cicatrization taking place most rapidly under these circumstances. When the opened bubo is transformed into a strumous or chancreous ulcer, or the two combined, with the possible complications of phagedænis, he treats it by the application of the tincture of iodine or solution of the nitrate of silver, washing it out also with chlorine lotions several times a day; and he has never found any ulcer resisting treatment longer than six weeks, the majority becoming healed in from eight to fifteen days.

3. *Condylomata (Plaques muqueuses).*—Although the author believes the practice he recommends under the former heads may require additional confirmation from more extensive practice than his own, in the matter of condylomata he can speak more positively. If the solution of nitrate of silver is not an actual specific, it acts with such rapidity, certainty, and efficacy, as to call for the highest recommendation. However confluent they may be and whatever extent of surface they may occupy, however infectious the discharge they give out, and even when they have attained a certain amount of thickness, provided that they are not too hypertrophied and have not undergone some of the transformations they are susceptible of they will wither, die away, and disappear in the course of some days, if every part be painted daily with a pencil dipped in a solution of the nitrate, five parts to thirty of water. Baths should be simultaneously used, seeing the part which dirt habitually takes in the production of this accident. Repeated trials have convinced the author that this success is quite independent of internal treatment. When, however, the condylomata have become transformed into a vast vegetating surface, of great thickness, the nitrate ceases to be of avail; and in one aggravated case mentioned, the pure nitric acid, repeatedly applied, was of service.

4. *Syphilides.*—Under this head the author gives the results of his trial, in ten cases, of M. Cullériér's plan of treating syphilitic eruptions by blisters applied to the chest. Although at first prepossessed against it, he now speaks highly in its favor. Excluding the slight roseolar forms, which get well of themselves, the author oftenest employed blistering in the papular form of the disease, and that is the form in which the remedy best suc-

ceeded. A single blister will exert a notable modification on chronic papular syphilides, which have existed during several months. One case of syphilitic lichen, which had lasted a year, and for which all kinds of active internal treatment had been tried, disappeared in the course of a week, during which three large blisters were successively applied to the anterior and posterior surfaces of the thorax. The squamous form resisted their action more, but still in two cases of psoriasis undoubted amendment was observable, and in a fortnight the scales were detached. In the pustular form, some cases of syphilitic acne were rapidly cured. M. Hervieux has not tried blistering in syphilitic impetigo of the face and hairy scalp, having found the application of the nitrate of silver solution, after poulticing off the crusts, very efficacious, even in very inveterate cases.—[*Brit. and For. Med. Chir. Review*, from *Bul. de Thérap.*]

Case of Cancerous Tumour Treated by Chloride of Zinc. By
JAMES ALEXANDER, Esq., Wooler.

THE following case of cancer does not possess in itself any peculiar interest, and certainly cannot boast of having been successful in its result. But it affords an opportunity of detailing a mode of applying caustic to malignant growths, or indeed to tumours of any kind, when it is deemed advisable to have recourse to its use for their removal, not much known in this country, and which may, perhaps, be found as effectual as any other, while it is free from various objections on the score of tediousness and uncertainty of operation, as well as prolonged suffering, to which the ordinary methods of applying escharotic remedies are justly liable.

Three months ago, a man presented himself to me for advice, with a large carcinomatous growth, occupying nearly the whole of the chin and considerable part of the under lip. The tumour was beginning to fungate on some points, where the skin had given way, and was covered with diseased integument closely adherent to the mass below on the remainder of its surface, and was still moveable, but not freely, on the parts over which it lay. The patient informed me that a small ulcer had been cut out of the lower lip a few weeks before, but the tumour on the chin, which he represented as being then about the size of a small bird's egg, had been unfortunately left. Deep indurations could be felt along the rami of the lower jaw, immovably united to the bone, and the aspect of the countenance was unhealthy and cachectic. It seemed a most unpromising case to meddle with, and should, perhaps, have been altogether let alone. But the man was clamorous to be relieved, if possible, from the loathsome incumbrance on the chin, which emitted from the ulcerated

parts an abundant and most offensive discharge. His friends were as eager as himself to have recourse to any means that offered the slightest prospect of even temporary alleviation; for of any ultimate benefit they were most explicitly warned there was not the faintest hope. It was therefore resolved to make an attempt to destroy the fungating mass by caustic; and I have much pleasure in acknowledging my obligations to Mr. Walker (my assistant), for suggesting to me the method of proceeding I am about to describe, which he had very recently seen employed in one of the Parisian hospitals.

Two parts of fine arrow-root were mixed with one part of chloride of zinc; and while the paste which such a mixture forms was soft, from the addition of a little water, it was rolled out into a thin sheet, and then divided into arrow-shaped pieces of about three inches long, each tapering to a fine point at one extremity, and rather less than a quarter of an inch broad at the other end. After drying, the paste becomes hard, and if the points are fine, the arrows are capable of overcoming a considerable resistance. After putting the patient under chloroform, a series of deep punctures were made round the circumference of the tumour with a narrow bistoury, and one of the arrows forcibly inserted into each immediately after it was made, where it was allowed to remain. In four days the whole growth was completely detached in one very large, black mass. The surface of the sore for a time looked clean and promising; by and by, however, it assumed an unhealthy appearance, and I cannot say that any permanent good resulted from the operation. The benefit derived in this particular case, however, is not the point to which I would solicit the attention of my professional brethren, but the manner of using the caustic, which I believe though occasionally practised in France, has been little, if at all, employed in this country. To do it effectually, one or two precautions should be observed, which were suggested by the progress of this case; and if these are attended to, I am inclined to think they will secure the complete detachment of the part we wish to separate in half the time which was occupied in this case. The arrows should be introduced in considerable numbers, not more than an inch or three-quarters of an inch asunder; the points from the opposite sides should cross one another in the centre of the morbid growth, and they should be inserted as near the bases of the diseased parts as possible, as nearly as can be accomplished in the line of demarkation between the sound and unsound parts. The pain from this procedure, judging from the above case, was not by any means severe; for the man slept tolerably well the first night after the application of the remedy, and spoke, and ate, and moved about freely, with little apparent suffering, much less, certainly, than I ever saw when caustic was applied to the surface; and undoubtedly, the

effect is very expeditiously produced, for the caustic being applied to the root, and not to the surface of the growth, its vitality is at once destroyed, and the separation is completed whenever the integument between the punctures yields to the lateral action of the arrows. I am no advocate for the use of caustic in the treatment of cancer; in common with the vast majority, if not the whole, of the profession, I greatly prefer its removal by the knife. But there may be cases in which the feelings of the patient, or, perhaps, other circumstances, may compel us to have recourse to it; and when such cases do occur, I venture to submit to the consideration of my professional brethren the mode of proceeding I have now detailed.—[*Edinburg Med. Jour.*, and *Braithwaite's Retrospect*.

EDITORIAL AND MISCELLANEOUS.

MEETING OF THE MEDICAL ASSOCIATION OF THE STATE OF GEORGIA.—We present below, the minutes of the late meeting of the State Society. We have neither time nor space in our present number to give any extended notice of the Proceedings. It was, however, a most improving, cheering and harmonious Convention, and the papers presented, when they are published, will speak well for the industry, zeal and ability of the Profession in our State.

Report of the Proceedings of the Medical Association of the State of Georgia, at its annual meeting held in the city of Atlanta, April 13th and 14th, 1859.

Pursuant to adjournment the Medical Society of the State of Georgia assembled in the City Hall, Atlanta, at 11 o'clock on the morning of the 13th of April, 1859.

The Society was called to order by the President, Dr. Joseph P. Logan of Atlanta, and the deliberations opened with prayer by the Rev. Dr. Wilson of Atlanta.

The Recording Secretary being absent, on motion, of Dr. H. F. Campbell, of Augusta; Dr. W. S. Meière, of Madison; was requested to act as Secretary, *pro tem*.

The roll being called by the Secretary, the following members responded to their names:

S. W. Burney, of Forsyth; A. Means, Henry Gaither, of Oxford; Samuel B. Clarke, of Richmond Factory, Richmond Co.; J. G. Westmoreland, J. N. Simons, H. W. Brown, Jno. W. Jones, Thos. S. Powell, B. M. Smith, Jas. F. Alexander, M. H. Oliver, J. M. Boring, Hayden Coe, T. C. H. Wilson, V. H. Taliferro, of Atlanta; A. A. Bell, Maxey's; E. J. Roach, Longstreet, Pulaski Co.; T. J. Barkwell, Hawkinsville; L. A. Dugas, H. F. Campbell, Augusta; L. P. Green, John T. Banks, Zebulon; S. H. Dean, Conyers; F. S. Colley, Monroe; S. H. Connally, Griffin; A. M. Boyd, Cave Spring; A. M. Parker, Salt Spring, Campbell Co.; W. S. Meière, Madison,

Dr. Campbell, of Augusta, then presented to the Society, for distribution among its members, a supplement to the *Southern Medical and Surgical Journal*, containing, besides some very interesting editorial and select matter, the History, Constitution and By-Laws of the Society.

On motion of Dr. Coe, the Constitution and By-Laws of the Society were read by the Secretary.

The proceedings of the last Annual Meeting held in Madison were then read and confirmed.

On written application the following gentlemen were duly elected members of the Society :

Drs. E. O. Ware, Robert Battey, T. J. Word, Rome; W. A. Culbertson, Cave Spring; J. A. Steward, Conyers; A. S. Whitaker, Jonesboro'; J. R. McAfee, R. G. W. Maffitt, Dalton; W. A. Shelby, W. V. Aderhold, G. G. Crawford, H. Westmorland, J. Gilbert, G. W. Humphries, J. D. Boyd, J. L. Hamilton, A. G. Thomas, W. P. Hardin, R. J. Massey, J. M. Sessions, N. D'Alvigny, D. O. C. Heery, B. O. Jones, B. F. Bomar, Atlanta; C. A. McKinley, G. L. Hudson, Newnan; A. M. Moore, J. C. Avery, Decatur; G. L. Jones, G. L. Johnson, Palmetto; J. T. Slaughter, Villa Rica; G. W. Pitts, Star, Butts Co.; B. L. Jones, Savannah; B. F. Hodnett, E. Griffin, Rough & Ready; W. D. Cunningham, Jasper, Pickens Co.; L. S. Cunningham, Big Creek, Forsyth Co.; W. H. Watkins, Franklin; F. O. Donnelly, Greenville; N. B. Drewry, Sharon Grove, Fayette Co.; J. P. Taylor, Haralson; Johnson Matthews, Yellow River; S. W. Leak, J. F. Donehoo, Fayetteville; W. C. Smith, Grantville; J. Walker, Longstreet; M. T. Fort, T. D. L. Ryan, J. H. Vakley, Hawkinsville; Joseph Jones, Augusta; J. K. Mitchell, Lawrenceville; D. A. Matthews, Millstone; George Lumpkin, Stephens; W. Moody, Maxey's; Samuel P. Lumpkin, Watkinsville; W. P. Bond, Lithonia; R. A. T. Ridgley, La Grange; W. A. Spier, Grantville; A. P. Brown, Cumming; J. Hackenhull, Dawsonville; S. Malone, Fairburn; C. W. Smith, Jonesboro'; W. F. Thomason, Sugar Valley; D. H. Payne, Marietta; H. S. Davenport, ———; B. M. Tidwell, Fairburn; F. M. Brantley, Merriwether; D. G. Hunt, Calhoun; L. H. Jordan, Colaparchee; D. M. Williams, Griffin.

After the enrolling of the names of new members, the Society adjourned till 3 o'clock, P. M.

AFTERNOON SESSION.

The Society was called to order at 3 o'clock by the President.

The election of officers being in order, the President ordered a ballot for President. Dr. Banks proposed the name of Dr. F. S. Colley, Dr. Alexander proposed the name of Dr. L. A. Dugas, Dr. Barkwell proposed the name of Dr. H. F. Campbell. Before the ballot, Drs. Dugas and Campbell withdrew their names. Society proceeded to ballot for President—on counting the ballot it was found that Dr. Colley had received all the votes cast. Dr. Colley was therefore declared unanimously elected.

After ballot for 1st Vice President, Dr. R. A. T. Ridley was declared duly elected. By ballot, Dr. H. Coe was elected 2d Vice President. By ballot, Dr. A. G. Thomas was elected Recording and Corresponding Secretary and Treasurer.

On motion, the following committee was appointed to induct the President elect into the chair:—Drs. Campbell, Alexander and Battey. Dr. Logan in retiring from the Chair delivered an appropriate and felicitous address, full of interesting statements and valuable suggestions.

On motion of Dr. Banks, the rules being suspended—Dr. B. L. Jones introduced the following resolution, which was unanimously adopted :

“Resolved, That the thanks of this body be tendered to Dr. Joseph P. Logan for the faithful, efficient and impartial manner in which he has discharged the duties

of President during his term of office, and also for the pertinent and truthful address to which we have just listened."

On motion of Dr. Burney, the following committee was appointed to recommend the names of such members of the Society as the committee should select, as delegates to the American Medical Association: Drs. Logan, Battey, Roach, Joseph Jones, Boyd, Taylor and Burney.

Rules being suspended, on motion of Dr. Campbell, Dr. Wm. T. Grant, of Thomson, was allowed to withdraw his name from the roll of members of this Society. After which, on motion of Dr. Roach, Society adjourned till 10 o'clock Thursday morning.

THURSDAY, April 14th, 1859, }
10 o'clock, A. M. }

Society called to order by the President. Roll called; minutes of the preceding day read and approved. Rules being suspended, the following resolution was offered by Dr. J. G. Westmoreland and adopted:

"*Resolved*, That Dr. R. L. Bozeman of Alabama, be invited to a seat with the Society to-day."

Rules being further suspended, Dr. Burney moved to appoint a committee of three to wait upon Dr. Logan and request a copy of his address for publication; motion carried. The President appointed as that committee, Drs. Burney, Coe and Dean.

Dr. Means, after a few appropriate remarks, introduced the following resolution:

"*Resolved*, That the name of this Society be altered from the Medical Society of the State of Georgia, to the Medical Association of the State of Georgia."

Resolution unanimously adopted.

Reports from Auxiliary Societies being called for, Dr. Banks reported that an Auxiliary Society had been established in Griffin according to the Constitution and By-Laws of the State Association; that the Society was composed of twelve members, and was increasing; he hoped that the Auxiliary Medical Society of Griffin would be acknowledged by the Association. Dr. Campbell moved that the report be received, and the Society acknowledged, which motion was carried.

Correspondence called for. No report.

Call for written communications.

Dr. Juriah Harriss, of Savannah, through Dr. J. G. Westmoreland, offered an apology for not presenting his Essay which he had been appointed to prepare, stating that unavoidable circumstances had prevented him from finishing it.

On motion of Dr. Means, Dr. Harriss' apology was received, and he was requested to prepare the Essay for the next meeting of the Association.

Dr. Campbell of Augusta, presented the following, entitled: "An Essay on Cholera Infantum," by H. W. DeSaussure Ford, M. D., Prosecutor to the Prof. of Surgery in the Medical College of Georgia, and rendered an apology for Dr. Ford for his failure to present the Essay.

On motion, Dr. Ford was requested to have his Essay published in one of the Medical journals, as written for the Association.

Rules being suspended, Dr. Meière offered the following resolution which was carried:

"*Resolved*, That the President appoint a Committee of Five to revise the Constitution and By-Laws of the Association, and report at next meeting."

The President appointed as that Committee, Drs. Meière, Banks, Oliver, Battey and H. F. Campbell. Rules further suspended.

The Committee on Delegation to the American Medical Association, reported the following names of members of this body as suitable delegates:

Drs. West and Sullivan, Savannah; Doughty and Robert Campbell, of Augusta; Nottingham and Boon, of Macon; Means, of Oxford; Alexander, of Atlanta; Stanford and Flewellen, of Columbus; McClesky and Carleton, of Athens; Roach of Pulaski county; Stevens, of Albany; Hillyer and Battey, of Rome; Donnolly, of Meriwether; Burney, of Forsyth; McAfee, of Dalton; Ridley, of Lagrange; Banks, of Pike; Brown, of Cumming, and Meière, of Madison.

On motion of Dr. Campbell, the report of the Committee was received and adopted.

Dr. Banks offered the following resolution, which was adopted:

"*Resolved*, That the delegates to the American Medical Association, this day appointed, be authorized to select alternates from the members of this Society, in case of the inability of any of them to attend the meeting of said American Medical Association."

Dr. Campbell then presented the following title of a paper, with the accompanying motto:

"An Essay on the adaptation of Climate to the Consumptive, for a permanent residence; embracing an Examination of the Climate of certain Localities of frequent resort; and also, an Investigation of the degree of Adaptedness of the Pacific Climates of the United States. Presented to the Medical Society of the State of Georgia, at its annual meeting, held at Atlanta, April 13th, 1859. By Wm. Henry Doughty, M.D., of Augusta, Ga."

Morro—"As 'the possible is immense,' so the human mind if the legitimate object of all science, (which is to observe facts and to trace their relations and sequences) is kept steadily in view, will be continually verging towards Truth in the investigation of physical causes."—FORRY.

He then stated that Dr. Doughty was unable to be present, and hoped to be excused; after which he read a portion of the able Essay of Dr. Doughty.

Dr. Campbell offered, also, an abstract of an

"Essay on *Quinine*: its therapeutical action being expended solely upon the middle or fibrinous coat of the BLOOD VESSELS, by which interpretation alone are its phenomena satisfactorily explicable. By Robert Campbell, M.D., Adjunct Professor of Obstetrics and Demonstrator of Anatomy in the Medical College of Georgia."

On motion, the Association adjourned until 2½ o'clock, P. M.

AFTERNOON SESSION.

Association called to order at 2½ o'clock.

Regular business being continued, Dr. Joseph Jones, of Augusta, presented a "Report of a case of Fracture of Neck of the Scapula;" also, a "Report of a case of Aneurism in the Gluteal Region." By L. A. Dugas, M.D., Professor of the Principles and Practice of Surgery in the Medical College of Georgia." He also presented an essay on "The Changes of the Blood in Malarial Fevers. By Joseph Jones, M.D., Professor of Chemistry and Pharmacy in the Medical College of Georgia."

An abstract of a "Report of fifteen cases of Lithotomy," with the calculi accompanying, was presented by H. F. Campbell, M.D., Professor of Anatomy in the Medical College of Georgia.

An Essay on "Puerperal Fever," was then read by Dr. Dean, of Conyers.

An Essay entitled "Quackery and its Cure," was then read by Dr. A. G. Thomas, of Atlanta.

A "Report of a case of Vesico-Vaginal Fistula," was presented by Dr. Battey, of Rome.

An Essay on "The Pathology of Phlegmasia Dolens," was then read by Dr. H. Coe, of Atlanta.

Dr. Taliaferro, Professor of Materia Medica in Oglethorpe Medical College, offered an apology for not presenting his essay as requested, stating he had begun to prepare it, but was unable to complete it; subject—"Phthisis Pulmonalis, its Causes and Treatment."

Dr. W. F. Westmoreland, Professor of Surgery in the Atlanta Medical College, offered an excuse for not presenting his Essay, it not being in his power to finish it; subject—Pyemia.

Rules being suspended, Dr. J. P. Logan moved that a committee be appointed to select Essayists for the next meeting. Motion amended by adding: "and to recommend a place for next meeting." Motion carried—Committee appointed by the President, Drs. Logan, Campbell and Word.

Oral communications called for: no report.

Rules being suspended, Dr. Means, on behalf of the Faculty of the Atlanta Medical College, invited the members of the Association to visit their College building.

New business being called, Dr. Battey introduced the following resolution, which was adopted:

"Resolved, That a Committee of three be appointed by the Chair to report, at our next meeting, upon the evidences of advancement in Medical Science, as exhibited in the literary productions of the medical men of Georgia."

The President appointed on that Committee the following gentlemen: Drs. Logan, Battey and Sullivan.

Dr. Banks offered the following resolution:

"Resolved, That the Chair appoint a Committee of three members of the Association, to which Committee the Essays and Reports of the Association be referred for publication; the same to be published in connection with the other proceedings of the Association in the form of a report."

A motion to reconsider Dr. Banks' resolution made and carried.

Dr. Battey offered in lieu of Dr. Banks' resolution, the following:

"Resolved, That the Essayists be authorized to present to any of the medical journals of the State, which they might select, for publication." Resolution was adopted.

On motion of Dr. Meière, the Association proceeded to ballot for Orator at next meeting. On counting the ballot, Dr. H. W. D. Ford, of Augusta, was declared elected. Dr. Banks was elected as alternate.

Committee on place of next meeting, recommended Rome. Report of Committee adopted.

Dr. Campbell then proposed that the *Southern Medical and Surgical Journal* be no longer considered the exclusive organ of the Association,

and that all the Medical Publications of the State be requested to publish the proceedings.* Proposition of Dr. Campbell accepted.

Dr. Word offered the following resolution, which was adopted :

"Resolved, That the thanks of this body be tendered to the Editors of the Southern Medical and Surgical Journal, the late organ of the Association, for the kindness done this body, in publishing for several years, its transactions without cost or charge. Also, to Dr. H. F. Campbell, for the courteous proposition made at this meeting, to extend to the other medical journals of the State, equal participation in all the publications of the Association in the future."

The President appointed as a Committee of Arrangements, for next meeting, Drs. Battey, T. J. Word, Hillyer Miller, and R. C. Word, of Rome.

Dr. Clark, of Richmond, offered the following resolution, which was adopted :

"Resolved, That we, the members of the Medical Association of the State of Georgia, tender to our medical brethren of the city of Atlanta, our heartfelt thanks for their very generous hospitalities and warm reception in their city, and that we will ever hold it in grateful remembrance, and that it will form a most pleasing episode in the history of our professional lives."

"Resolved, That our Secretary be requested to have these resolutions published in the city papers."

There being no further business before the Association, on motion, the Association adjourned to meet, in the City of Rome, on the 2nd Wednesday in April, 1860.

A. G. THOMAS, M.D.,
Secretary of Med. Ass'n of Ga.

THE SEMI-MONTHLY MEDICAL NEWS.—We have regularly received the above excellent new journal, from its first to its present (8th) number. Its Original, Eclectic and Editorial departments evince excellent judgment and rare ability on the part of its distinguished editors.

A peculiarity of this journal is, that its editors have had an opportunity of manifesting that heartfelt gratitude which ever ennobles both the donor and recipient, and which we may claim as characteristic of our Profession. The work is dedicated "To JACOB L. SMYER, Esq., who, by munificent liberality, sustains this enterprise." How seldom is it, that the Medical Profession enjoys the meed of thanks from the community. How seldom, on the other hand, do they have the opportunity to thank the people—but, when did that opportunity ever pass unimproved? Let any man do them a service, and that man's name lives in their generous hearts, glows in their widely circulating pages, is bound up in their enduring volumes, and goes down to remote posterity embalmed in the love and gratitude of a noble and time-honored profession.

This journal presents to its readers thirty-two well filled pages every two weeks. It is edited by S. M. Bemiss, M.D., Professor of Clinical

* Hereafter, when *Essays* are read before the Association, the *authors* of such Essays will have the privilege of selecting the journal in which their papers shall be published.—EDITORS SO. M. & S. J.

Medicine, and J. W. Benson, M.D., Professor of Descriptive and Surgical Anatomy—both, of the University of Louisville. It is published by Hanna & Co., Louisville, Ky., at three dollars per annum. We are much pleased to place this work upon our Exchange list, and shall endeavor to make it useful, both to ourselves and our readers.

SCRAPS OF PRACTICE.

Diarrhœa.—Ordinarily, cases of diarrhœa yield promptly under the judicious use of stimulants, with moderate doses of some one or other of the preparations of opium. Occasionally, however, we find the affection resist every simple remedy, and persist in spite of all our care. The discharges, under these circumstances, are of a pale clay color, shewing deficiency of bile, and they are thin and copious—something more than simple astringents seem to be required. It is common to prescribe calomel, or blue mass, in large doses, for these cases. From our own experience, we are inclined to the opinion that the doses prescribed are unnecessarily large, and that much smaller doses would better and more safely accomplish the result. We seldom fail to correct this condition of the bowels and improve the appearance of the passages by giving, in addition to the astringents, *very small doses* of blue mass—thus: Divide xii. grs. of blue mass into twelve minute pills—give one pill three or four times a-day. The passages usually become less frequent, more consistent and of better color, before the twelve pills have been taken. The practice has the advantage of being fully as certain as the larger doses of calomel or blue mass, while it never runs the risk of increasing the disease. And again—we are saved from the wholesale administration of mercury, a remedy which, though one of the most valuable we possess, is still often, as potent to do evil as it is to do good.

There is another condition of the bowels which requires special attention, and which we seldom or never find alluded to in books. The upper portion of the intestines appear to have recovered from the condition which had given rise to the discharges, the passages have assumed the normal color, and for a part of the day, viz. in the morning, the normal consistency—yet the *rectum* is irritable. The patient will state that in the earlier part of the day, he has no trouble with his bowels, that the first evacuation is nearly normal, but that, at frequent intervals, after the first, he feels compelled to have a second, a third, and many others, each time, the discharges becoming thinner and thinner, till by night, regular diarrhœa appears to have been established; next morning the passages again appear consistent at first, but invariably, at night have become thin and diarrhœal. Astringents and opiates here appear to fail. We have known patients completely stultified by laudanum draughts, and yet weakened and exhausted at night, by the persistent

discharges. We regard the true pathology of this form of Bowel-complaint to be the *Irritability of the Rectum*. Perhaps the mucous surface of the rectum may be inflamed or abraded, but we think this is, generally, not the case. The nerves appear to be the true seat of the affection. The course seems to be this: the fecal mass accumulates in the rectum during the night, a small quantity at a time, without producing a desire for action—and the patient can often retain it till 9 or 10 o'clock in the morning without inconvenience, but as soon as the necessary effort has been made to produce the morning evacuation, the parts become excited, a sense of irritation is left which excites the peristaltic action of the upper portion of the intestine and successive portions of their contents are brought into the rectum which are expelled by the irritable rectum—this constant irritation is reflected upon the secreting surface of the small intestines by a true excito-secretory action, and they finally yield to free, thin and copious diarrhœal discharges, observed in the latter hours of the day. The sensory nerves, then, of the rectum, are in an irritable condition, and they, through the spinal marrow, become exciters, to the secretions throughout the whole length of the intestinal canal, by the influence which they exert upon the ganglionic system.*

We have said opiate-draughts do not arrest these discharges—very large doses of opium often fail, and yet opium is the best and only remedy we know in those cases—not given in the ordinary way, by the mouth—but by the rectum, and then one-fourth the quantity is doubly efficient in giving relief and comfort to the patient. This result might reasonably be expected;—the irritable *excitor* surface is now made the absorbent surface, and therefore the irritability is promptly relieved, and the diarrhœa consequent upon it, is arrested.

Our advice to patients suffering in the manner above described, is this: Procure a convenient glass syringe of 1 oz. capacity, also a 2 oz. vial of water and an ounce vial of laudanum, carry them constantly about the person so that the injection may be applied at the proper time. Immediately after the morning evacuation fill the syringe with water, leaving space for the piston and 15 or 20 drops of laudanum; *drop in that amount of laudanum*, shake the syringe to mix it well, and apply. At first, a slight burning and irritation is felt in the rectum—this soon subsides, and the rectum becomes quiet and *remains so*, the patient rarely having a second passage during the entire day—until next morning. If he wishes to test the efficacy of the remedy, let him omit the laudanum injection in the morning, and by night the diarrhœa will be as bad as ever. In a week or ten days the irritability of the rectum is general-

* See Essay on Excito-Secretory System in its Relation to Physiology and Pathology, by Henry F. Campbell, M. D. 1857.

ly removed, and the injection is no longer necessary, the parts resuming their healthy functions without it.

Many patients fail to retain the injection at first; then, repeat after the second passage. Others require more laudanum, even as much as 35 or 40 drops—others again, require more water, to prevent the burning sensation at first produced by the laudanum; but in most cases 20 drops of laudanum and one ounce of water, we have found to be fully sufficient. There is no general effect experienced—it simply *quiets the rectum*—and with it the entire intestinal canal—and that is enough for those sufferers whose rectums, from ten o'clock in the morning till ten o'clock at night, have been in an habitual daily turmoil and distress perhaps for months previous to the application.

We intended to discuss some of the peculiarities and remedies of the Diarrhœa of Children, when the irritation is most frequently at the other end of the alimentary canal, viz., the mouth, caused by Dentition—but space will not allow. If we indulge in such reflections, our “scraps” will become disquisitions, and then—nobody will read them. We defer Infantile Diarrhœa for a future number.

H. F. C.

Phosphorus in the Treatment of Phthisis.—Nearly a year ago, we called attention to a new theory respecting the nature of phthisis, and a new method of its cure. The theory, in brief, was this:—that the essential condition of phthisis is a deficiency, in the system, of phosphorus in a state capable of oxygenation; the cure naturally followed—give the hypophosphite of lime, or of soda, which offers the double condition of being immediately assimilable, and at the same time of being in the least possible degree of oxydation. The remedy has been extensively tried, but, we believe, with only limited success. We observe that the editor of the *Gazette Hebdomadaire*, of Paris, has been publishing the results of his observations on patients treated by Dr. Churchill himself. The following translation of his article, or a part of it, is from the *American Medical Monthly* for January.

“Of the twelve cases of which I have made a statement, there are two in which I doubted, from my first examination, the existence of tuberculous phthisis, at least as being the chief of the local or general diseases of which it was necessary to notice the ultimate progress. In one of these two cases the general condition was improved, and the local disease remained stationary at the end of four months. In the other, all the disease had disappeared at the end of four months. Ten cases remained which can be called tuberculous phthisis, with every appearance of certainty. Of this number, in *one*, the local disease was improved at the end of four and a half months; in *one* it remained stationary at the end of four months; and in *eight* it was aggravated at the end 4, 2, 3, 5, 4, 3½, 4½, and 3½ months respectively. As to the general condition, in *five* cases there was evident amelioration; in *one* there was no appreciable change; and in *four* there was aggravation. In two of these last cases, it is true, the last note of M. Churchill makes no mention of the general

condition, but my eyes assured me that this was far from being improved.

"After these results, it is impossible for me to attribute to the method of treatment adopted by M. Churchill any influence over the progress of tubercles, for we know very well that in this disease the disorganization of the lung is far from being continuous, even in the absence of all treatment; that, on the contrary, the evolution of tubercle usually presents periods of repose, during which the *rales* consequent on congestion of the tissues or the secretion of liquid products, diminish or disappear. This is a point on which Dr. Austin Flint has lately insisted.

"As to the influence of the treatment on the general health, especially upon the fleshiness of the patient, as well as upon certain thoracic symptoms, I ought to say, that it has seemed to be quite apparent. Nevertheless, I should not dare to rest my opinion on this small number of facts; and at any rate, I could not see that there was anything *specific* in this result. Many preparations, but especially cod-liver oil, when phthisical persons first use them, have the effect of at once restoring the flesh, the strength in a measure, and even of diminishing the cough and the expectation; but this does not stop the tuberculous disease, which slumbers for a moment only, to awake and resume its work of destruction."

[*Boston Med. and Surg. Journal.*]

Laryngeal Operations in Paris.—These seem to be the order of the day, and methods of a strange kind are proposed by various surgeons. We have already alluded in *The Lancet*, to M. Bouchut, who leaves for several days a dilating canula in the larynx. The same operator now proposes to forestall the distressing symptoms of croup by *removing* the tonsils at the outset of the disease. Cases in support are brought forward. On the first of these operations M. Trousseau has just reported, and eloquently shows that the intra-laryngeal permanent dilatation is very difficult of application, uncertain in its results, and far inferior to tracheotomy. The latter operation is shown, when early performed, to be much less fatal than has been supposed. M. Bouchut, who seems to be hard at work with croup, has just found that in two-thirds of the cases the urine is albuminous, and ceases to present this peculiarity when recovery approaches. This same M. Trousseau uses, in different complaints of the larynx and trachea, a *porte-caustique* very similar to Lallemand's, but much shorter. The nitrate of silver is thus easily carried into the larynx.

M. Loiseau, however, has much popularized, in croup, his injections of various solutions into the larynx. His mode of operating is simple. The left forefinger is covered from the metacarpal articulation to the first phalangeal with a metal ring, which shields that part of the finger from the teeth of the patient. The finger is then introduced into the mouth, and the epiglottis pressed against the base of the tongue. Guided by this finger, a silver tube with two holes at the end is passed into the upper part of the larynx. A sponge, fixed to a rod, and previously moistened with a caustic solution, is now introduced into the tube, and pressed against its end; through the holes in the latter a regular caustic douche is applied to the larynx. This operation has been extensively used

in Paris, and, though not invariably successful, has proved extremely useful, and has contributed to the recovery of a great many patients.
[*London Lancet.*]

Operation in Veterinary Surgery.—Considerable interest has been excited amongst practitioners of the veterinary art by an operation performed by Mr. George Holmes, of Beverley. The subject, a valuable black horse, had been suffering some time from water on the chest. Mr. Holmes accordingly operated, and succeeded in drawing from the animal the enormous quantity of fifteen gallons and a half of the fluid, a result unprecedented in the annals of the profession. Although only a recent event, still the horse has perfectly recovered, and is enabled to do the ordinary field-work with the rest of the team.—[*Ibid.*]

L'Hôtel-Dieu of Paris.—This ancient hospital is now being demolished, to make room for a new institution in a more healthy location, and for the purpose of providing better sewerage and ventilation, which were the faults of the old building. The Hôtel-Dieu had nearly one thousand beds, and received annually about twelve thousand patients, who were nursed by forty Sisters of Charity, mostly Roman Catholics. The founding of this hospital is said to date back as far as the year 660; but this point is disputed. We extract the following paragraph from the Medical Times and Gazette, which will prove interesting to our readers:—

“It is generally believed, but without proof, that the foundation of the Hôtel-Dieu was due to St. Landry, Bishop of Paris, in the seventh century. The canons of Notre Dame only possessed at first the half of this establishment; the other part was ceded to them in 1202, by Renaud, Bishop of Paris. At that time, the poor sick and healthy poor were admitted into it; it was a hospital in the true sense of the word. Philippe Auguste was the first king that gave donations to it. We read in one of his letters: ‘We gave to the Maison de Dieu de Paris, for the poor there, all the straw in our room and house in Paris, each time that we leave the town to sleep elsewhere.’ The increase of population brought an increase of sick, and thus the Hôtel-Dieu became insufficient for their accommodation. In 1217 Dean Stephen, conjointly with the Chapter, charged four priests and four clerks with the spiritual care of it; thirty priests and twenty-five clerks provided for the wants of the sick. Under St. Louis, the hospital was re-built and enlarged. It then took the name of Hôtel Notre Dame, and was exempt from all taxes. In 1511, the Rue des Sablons was closed, in order to increase its size. In 1531, Cardinal Duprat built a ward, which was called before the Revolution, Salle du Legat. In 1602, Henry IV., constructed the Salle St. Thomas; in 1606, the Salle St. Charles was finished, through the liberality of Pomponne de Bellièvre. Louis XIV., like his predecessors, favored the hospital. In 1772, the accumulation of sick was so great, that as many as eight patients were put in one bed; and on the morrow, almost always three or four were found dead. The mortality rapidly increased, and the Hôtel-Dieu became a permanent source of infection to the city; and this brought about an improvement in its administration. Under the Revolution, the Hôtel-Dieu was re-baptized, and called Maison de la Humanité. The Hôtel-Dieu is now about to be entirely demolished.”—*North-American Med. Chur. Review.*

SOUTHERN MEDICAL AND SURGICAL JOURNAL.

(NEW SERIES.)

Vol. XV.]

AUGUSTA, GEORGIA, JUNE, 1859.

[No. 6.

ORIGINAL AND ECLECTIC.

ARTICLE XV.

An Essay on the Adaptation of Climate to the Consumptive, for a permanent residence ; embracing an Examination of the climate of certain localities of frequent resort ; and also, an Investigation of the degree of adaptedness of the Pacific Climates of the United States. Presented to the Medical Society of the State of Georgia, at its annual meeting, held at Atlanta, April 13th, 1859. By WILLIAM HENRY DOUGHTY, M. D., of Augusta, Ga. (Ordered to be printed.)

(Continued from May No. page 315.)

IN the study of medicine, as in all other departments of science, the necessity for a standard, with which to compare and by which to contrast the various differences and irregularities, which are found under the controlling influence of the numerous causes of disease, obtains with peculiar force. Applied to meteorology, it is possessed of more than ordinary interest and value, since these numerous causes of diseased action, in a large proportion of cases, are attributed, more or less, to some aberration in the natural constitution of the atmosphere, or to a hurtful predominance of *some* one or other of the normal constituents of the same. The etiologists of the British Isles tested, justly perhaps, the salubrity of other climates by that of their own, as is shown by them in their numerous essays upon the subject of consumption. However, the greater frequency of tubercular disease in cold countries, soon inspired the minds of

the profession of that place with the idea, that the great test of climatic salubrity to those laboring under pulmonary lesions, was to be found in warmer regions, where they are of less frequent occurrence. Greater uniformity of temperature was enthroned as the principle and element above all others to be conformed to. At present, the scene has again changed: these views, after having undergone a practical test, are being reversed. We accordingly find the Englishman rejoicing, that "the death-blow to the expatriation of invalids afflicted with pulmonary alterations," has been given and apparently in conscious security believes, "that consumption, the reproach of our fickle seasons, lurks as fatally in the balmy Italian zephyr or the sultry tropical breeze." Being thus reversed in belief, by some the propriety of a change of climate is denied, whilst others, led on by the hope of discovery and success, have recommended cold climates and dry. It is very natural, that the early settlers of this country should have imbibed their notions of climatic perfection from their native country, and therefore have deemed it superior in excellence, to that of their adopted home. But, as this country has gradually emerged from its native state of rudeness, into one of high civilization and scientific attainments, this too has been made a point d'appui, from which to judge of and estimate the causative relationship of the various meteorological conditions to consumption. At present, however, we believe that European and American writers agree upon a less exclusive ground, i. e., a selection of a residence in cold latitudes during certain seasons of the year, and a return to warmer ones during other seasons: thus completely overturning the former conviction of benefit to be had from a permanent residence in any particular locality. With the hope of still finding a place, favorable for a permanent residence, we propose to institute a comparison, between the continents of Europe and North America, in reference to those meteorological influences, which are recognized as causative of this disease.

GENERAL COMPARISON OF EUROPE AND NORTH AMERICA.

Europe.—It would seem, that the true standard of comparison, ought to be found somewhere on the continent of America, since "it traverses all the climatic zones of the earth," whilst Europe, "extends through similar climatic zones." Indeed, the

supposition that this starting point ought to be found here, must, from necessity be so, when we remember that it extends almost from the Arctic to the Antarctic ocean. "Europe, of all the continents, is the one whose forms of contour are most varied. Its principal mass is deep cut in all parts by the ocean and by inland seas, and seems almost on the point of resolving itself into peninsulas. These peninsulas—as Greece, Scandinavia—repeat to infinity the phenomena of articulation and indentation of coast, which are characteristic of this continent. The inland seas and the portions of the ocean, its outer limits enclose, form nearly half of its surface." "Europe has a northern and southern slope, the culminating point, being the Tyrolian Alps." The gentle and longest slope is the northern—the southern is everywhere rapid and shortest. It is everywhere, and especially on the south and west, exposed to the returning trade-wind. North and east, the polar winds find a wide portal for entrance and penetrate even to the southern slope; south and west, the south-west, the returning trade-wind and the prevailing wind of the north temperate zone, laden with the warm and humid vapors of the outspread Gulf Stream, the Atlantic Ocean, and its great inlet, the Mediterranean Sea, extends its influence far in the interior, beyond the Alps, and northward to Norway and Sweden, rendering these countries habitable and comparatively mild, in default of which it is said, that their seasons would be as rigorous as those on the coast of Labrador. The parching sirocco, from the African desert, also exerts its blighting and burning effect upon a part of its southern coast. In Europe, the mountain chains are broken and not continuous, and take generally a direction with the axis of the continent, from east to west. It has one mile of coast to 156 square miles of interior. It has a mean elevation of 671 feet above the level of the sea.

North America.—The forms of contour of North America are more regular. It has but one indentation upon its western coast of any importance—the Gulf of California, whilst its eastern border, though frequently indented with small articulations of sea and land, has not these latter, so numerous and extensive as those on the south and west of Europe. Its extensive mountain ranges take a northern and southern direction, dividing it into an eastern and western slope—the eastern, being the long

and gentle one to the Atlantic—the western, abrupt and short to the Pacific Ocean. All east of the Rocky Mountains is an extensive plain, and being the major part thereof, characterizes it as a region of plains. Towards the north, this plain presents the large and extensive area, 90,000 square miles, in the person of the great lakes. On the south, the Gulf of Mexico encroaches to half its width, and in the intervening space, is the great valley of the Mississippi, with its vast and comprehensive domain, full of moisture and verdant with abundant vegetation. On its eastern slope, it presents no obstacle to the entrance of the polar winds, with all of their bitterness and severity, marking the climate of the north with the severity of a Canadian winter, and guided by the great mountain chain, they extend their influence in the winter season, even as far south as Texas and Florida. The equatorial winds have also an unobstructed entrance, over the Gulf, into the southern portion, conveying their superabundant moisture to be condensed by the great condenser, the Rocky Mountains, destined thereby to aid in supplying the eternal fountains of “the Father of Waters,” and its tributaries; and bearing along with them, the heat of the tropics far north, producing in the summer the greatest height of the thermometer, and in conjunction with the polar winds, the greatest known range of the thermometer, from 120° to 130°. Those from the east, having traversed or originated in the region of the Gulf Stream, find also an easy access, and render sultry, oppressive and humid the atmosphere of that portion particularly, between the Atlantic and the Alleghanies. It has one mile of coast to 228 square miles of interior, and is 748 feet above the level of the sea. In each of these continents, various local circumstances conspire to render certain parts different in regard to fruitfulness, salubrity, etc. The northern slope of Europe is comparatively more dry, than its southern, while the eastern of North America, more particularly in the United States, is more moist than its western.

Now it will be observed, that, taken in the aggregate, these two great continents, whilst each possesses some slight advantage over the other, yet remarkably coincide in the possession of those conditions, which are generally conceded to be most pernicious to the consumptive—viz., humidity of atmosphere, and variableness of climate and seasons. It has been shown,

that the plain east of Rocky Mountains constitutes the great bulk of the North American Continent; that portion west of them, being only a narrow strip, extending from Lower California to the Polar Sea. This eastern plain is the portion, which has been emphatically the theatre of operations, and the study of the profession in this country, in connexion with pulmonary diseases. The southern and smallest of Europe, on the contrary, has been to European writers the great field and seat of their numerous observations and warm eulogies. With some exceptions, the northern portion of the latter, has not even occupied debatable ground in this connexion, being confessedly too rigid in all of its climatic features. It should not escape observation, that the comparisons, perhaps invidious, which have been made between this country and Europe, have been predicated in error, since they have generally been confined to that of the southern slope of the latter, with the eastern of America. It does not even savor of fairness, since the mildest of the former is contrasted with the severest of the latter. Commercially, it would be just and proper, that the south and west of Europe, should be compared with the south and east of America (N.), since their more numerous indentations and articulations of sea and land, admirably adapt them for commercial intercourse with each other and with the world at large. But, considered with reference to the subject under consideration, the mildest of the one is brought in contrast, with the severest of the other.

COMPARISON OF THE EASTERN AND WESTERN SLOPES OF NORTH AMERICA.

With the view of substantiating this last remark, we propose to contrast, in the first place, the eastern and western slopes of North America, in reference to certain general climatic characters; and then, to institute a comparison of the latter, with the southern slope of Europe. The eastern slope of the North American Continent is, at its greatest width, about 1600 miles—the western is 600 miles broad; the eastern is a great plain, possessing an alluvial soil—with broad and deep valleys, extending from the Rocky Mountains to the Atlantic Ocean. The western, on the contrary, is high and elevated—a highland region, with but few important valleys—the Columbia, the Sacra-

mento and San Joaquin, and the Colorado; the eastern has large and numerous rivers, extensive valleys, lakes, and inland seas, and is bounded on three sides by water; is also open to the returning trade-wind, polar winds, and the vapors which accumulate in the east, about the Gulf Stream: the western, like all parts of continents, occupying the lee-ward side of extensive mountain chains, has, neither large rivers nor numerous small ones; excepting the valleys above-mentioned, which are small, when compared with those on the eastern side—no large surfaces of water are exposed for evaporation: it has but one aqueous boundary, and is exposed to the unobstructed action of but one wind, the west, from the Pacific, being shielded from the polar and eastern winds, almost entirely, by the Rocky Mountains, and from the south winds, less effectually, by smaller and more unimportant ranges, and by extensive highlands. Aridity of soil and atmosphere also characterizes the latter. From this comparison, we deduce the following conclusions:—The eastern slope affords enlarged facilities for the generation of moisture, by the character of its soil, by its general topographical features, and its exposure to certain winds—these winds, producing also the greatest alternations of heat and cold, according to their prevalence, frequently in very short periods of time; the greatest range of the thermometer; and in many places, uniting a high dew-point with a high temperature, but in as many others, a low dew-point with a considerable degree of relative humidity. Hence its phases of climate, humidity of atmosphere, with extreme variability of seasons, together with its topographical conditions, are, throughout, absolutely injurious to the consumptive. Some of its localities may appear dry, when compared with its most humid.

The western slope possesses many circumstances, calculated to modify the rigors of climate. Its winds come tempered by the mild Pacific, over which they pass to soften and subdue. The polar winds, except those due-north, and n. n. west, which are not the prevailing winds of the north-temperate zone, being effectually barred an entrance, cannot bring hither their severity, and when they overleap the high range of mountains on the right, come stripped of whatever moisture, they may have possessed, and are moreover counteracted by those from the Pacific, which are warmer and have greater prevalence.

Besides, being more elevated, the density of the atmosphere is not so great as in the plain to the east; the general dew-point is not so high; the average range of the thermometer is perhaps less; and the seasons, as will be shown in the conclusion of this article, more uniform in temperature, and regular in their succession of each other. In other words, lightness, dryness, and buoyancy of atmosphere, with uniformity of temperature and regularity of the succeeding seasons would seem to be the meteorological record* of this border. This is not absolutely true of all its extent, because all of the western plateau is not so protected, but by far the greater portion, is so protected.

COMPARISON OF THE WESTERN SLOPE OF NORTH AMERICA WITH
THE SOUTHERN SLOPE OF EUROPE.

The south of Europe is bounded upon the south and west by the Atlantic Ocean, the Mediterranean Sea, and numerous smaller seas; has multiplied indentations of coast, peninsular projections of the continent, with bays, gulfs, etc. On the north, the Cantabrian, the Pyrennees, the Alps and Appenines, form the chief mountain ranges, taking the general course and direction of the continent from east to west. These, however, do not present an unbroken front, but are interrupted by numerous gaps. The south winds transport thither the heat of the African deserts, while the south-west bears the vapors from the Atlantic and the Gulf Stream to envelope the land, and to be precipitated by the various mountain condensers. Moreover, a high dew-point often coincides with a high temperature, as in the eastern portion of the United States. The action of the polar winds, although somewhat intercepted by the mountain barriers, yet is not entirely so, since their interruptions, or rather their want of continuity, allow them to diffuse their chilling and icy influences very far southward—the harbors of the southern ports, such is the extremity of the cold, being occasionally frozen over for some distance. As a consequence of the resulting conflict between the northern and southern winds, its seasons are more or less variable and trying to the invalid, and its moisture is frequently condensed into mists and fogs. Its elevation above the sea is not so great as the western slope of North America, for, as a general rule, those countries washed

* The various terms used above are to be taken in a strictly comparative sense.

by the Atlantic are less elevated above its waters, than those washed by the Pacific. A high dew-point, rapid alternations from heat to cold, without uniform and regularly succeeding seasons, would seem to characterize it, notwithstanding its former high position in the estimation of European writers. Between this, and the eastern portion of the United States, there is great climatic similarity, whilst the western part of the latter seems to possess decided natural advantages over them both.

To sum up: a high dew-point, associated with alternations of temperature, oftentimes the widest range of the thermometer, and corresponding fluctuations of the barometer, equally pernicious, characterize these two localities; while a comparatively low dew-point, rarity, and therefore lightness of atmosphere, with regular and uniformly succeeding seasons on the western, combine to effect an elasticity and buoyancy of atmosphere, healthful to the vigorous and not undesirable for the consumptive.

AN EXAMINATION OF THE GENERAL FEATURES OF THAT PORTION OF THE PACIFIC SLOPE WITHIN THE LIMITS OF THE U. STATES.

Having thus presented the general characters of the climate of the western slope of North America, we descend to a consideration of the climatic features of that portion of it, which is included within the limits of the United States of America. And under this general head, we include all of that portion of the continent, situated between the Rocky Mountains and the Pacific Ocean; and extending from the southern boundaries of the State of California and the territory of Arizona northward to British America—embracing nearly 18° lat.; 11° long. at its narrowest point, and about 18° long. at its greatest width; and having 1,000 miles of sea-coast. The most prominent topographical feature, which it presents, is its mountain character. Upon the right are the Rocky Mountains, 4,000 miles long and 10,000 feet high; taking at their commencement a direction south-by-east to a point opposite the centre of the region we are about to consider, and then assuming one almost due-south—their prolongation southward, being continued under the name of the Sierra Madre, a chain less lofty than the original, but extending into Central America. To the left, another important range, the Sierra Nevada, 15,500 feet high,

prolonged northwardly through Oregon and Washington Territory, under the name of the Cascade Range, runs parallel with the Pacific, producing by its height and extent a profound modification and contrast in the climates of the sea-coast and interior. Still farther west, another chain, the Coast Mountains in California, impose themselves upon the view, too limited however, in their height to modify essentially the climatic features, foreshadowed in the above representation of its greatest topographical element. Between the former of these chains, smaller and more scattered ranges are found, the country resolving itself into a high table-land or plateau. Isolated peaks are also found at intervals, along the great mountain chains, some of which rise to a great height in the air. For the purpose of a convenient and systematic consideration, we adopt the suggestion thrown out by this part of its physical geography, and divide it into two parts—the sea-coast and the interior. The sea coast, true to the principle which distinguishes the precipitation of the western from the eastern slope of the United States, presents the outlets of but two important rivers, and has comparatively few small streams: the waters of one of the former, the Columbia, coming from the far interior and the precipitation on the western side of the Rocky Mountains; the other, formed by the junction of the Sacramento and San Joaquin rivers, which latter are composed of the waters, produced by the local condensations along the margin of their mountainous boundaries and the melting of snow on the summit of the Sierra Nevada, and also from the natural precipitation into the valleys of the same name.

Of the interior, it is said*—"there is a great area very deficient in atmospheric precipitation, which stretches from the Rocky Mountains to the great coast range, and from the point, where the two ranges merge into one in British America, south, to near the latitude of the city of Mexico. Though both these great mountain systems are broken down in the vicinity of the 32d parallel, they rise again in Mexico, the coast range at the east, arresting the tropical rains from one ocean, and that of the west, from the other. Within the limits of the United States, this great arid region may be said to embrace ten degrees of longitude and seventeen of latitude, drained only by the Colum-

* See Army Meteorological Register, p. 761.

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bia and Great Colorado rivers in any outlet to the sea. Fully half of it is the Great Basin of the interior, which does not receive a sufficient quantity of rain to require any external drainage. Taking the basin, at nearly eight degrees of latitude by seven of longitude, we have two hundred thousand square miles so deficient in rain as to send out no rivers, and to accumulate no considerable lakes, and this statement places the contrast with the eastern United States, in the strongest light. The two great rivers of the whole arid district receive most of their volume from the mountains themselves and beyond its proper limits, and their basins might appropriately be added to the calculation, making nearly four hundred thousand square miles of surface, which, of itself, would send no rivers to the sea. In the divisions of rain or hydrographic systems, this deserves a distinct place, and its basis is in the permanent hyetal condition, which may or may not here be wholly dependent on altitude and configuration."

The influence of mountains in the production and modification of climate, and the great difference between the climate of the sea-coast and inland situations, find no more fitting examples in the geography of the globe. The mountains upon the right shield the interior from those striking vicissitudes, which characterize the eastern plains of the United States and the Mississippi Valley; and from the moisture of the Gulf of Mexico and the Atlantic. Those upon the west, shut out the moist winds from the Pacific, condensing their moisture upon the windward side of those mountains. Whatever of climatic severity or salubrity, therefore, this extensive interior region enjoys must be due to its own peculiar situation and conformation, and to a small extent to exterior or extraneous influences. Being almost surrounded by mountain ranges, high in their elevation, and continuous in the obstruction which they present to outside influences, it occupies an anomalous position. The slope of this interior plateau is towards the north—that portion of New Mexico, which constitutes its most southern termination, being from 5000 to 6000 feet above the level of the sea, whilst that of the Great Basin is from 4000 to 5000 feet, and the valley of the Columbia 1000, or less. With this great height will correspond the barometric pressure, and the other various meteorological conditions of the atmosphere. M. Guyot\* says: "the physical

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\* See Earth and Man.



position of a place, as I would call its altitude, or its elevation in the atmosphere above the level of the sea, is then the necessary compliment of its geographical position. In considering only places situated in a region of small extent, this element is even far more important to know."

Again, no single precept in comparative physical geography is more universally adopted, than that of the influence, which proximity to the sea-coast exerts upon the climate of contiguous countries. Where the elevation of the continent is but little above that of the sea, those modifications extend far into the interior, rendering more or less uniform the temperature—dispensing heat to countries, otherwise frigid and uninhabitable, but at the same time, increasing the humidity of their atmosphere. Or, in case of the prevalence of cold waters or currents along the coast, if any circumstance is present to induce a flow inland, internal heat is neutralized, by the effort to establish an equilibrium of the two atmospheres. Indeed, the sea-air tends to bring the extremes together, and to maintain at all times a uniformity of temperature. But where regions more elevated, or those farther interior but protected by mountain chains from the atmosphere of the sea, are contiguous, the regulating influence of that air is lost, because its approach is obstructed, and it loses its peculiar properties after forcing its way to such region, Do mountains coast the sea? The winds from the latter, forced to ascend along their sides, "are uplifted into the colder regions of the atmosphere; they feel the pressure of the air, which is less there, and the expansion of the gases, comprising them, further increase the cooling; the air loses its capacity for holding the same quantity of vapors as before. The latter are condensed into clouds, which crown the summits of the mountains, trail along their sides, and melt soon into abundant rains. If the sea-wind passes the chain, it descends on the opposite side, dry and cold; it has lost all its maritime characters."\* "But," continues M. Guyot, "we have said, that the plateaus also have a marked effect upon the distribution of the rain waters. Their borders act as mountains, and their surface, heated more than the layers of air of the same level, absorb the little vapors which are sent to this height, without condensing it; their extent finally, and their elevation tend to impede the access of the oceanic vapors,

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\* See Guyot—*Earth and Man*, p. 165.

and to increase the drought." Examining the climate of the coast, according to the normal influences of the sea-air upon the land, we notice a strict observance of those results, which are the necessary sequences of the reaction of the water upon the shore. Indeed a higher degree of temperature and greater uniformity, from one extremity to the other, than is common to ordinary sea-coast localities are found here—these two relative conditions, being due to certain peculiarities of the waters of the ocean here, not prevalent everywhere.

The interior, however, as we have said, anomalous in its situation, is a plateau, protected by high mountains; therefore, moist winds, from whatever quarter they may come, are subjected to two modifying agencies. First, the mountains, by which they are deprived of moisture, and secondly, the plateau, whose heated and rarified air absorbs the little vapor they may still possess without precipitating it. But, at the same time that a general plateau conformation favors the dissipation of moisture, in the day, by the character of the soil and its elevation, it favors a rapid accumulation of heat, modified alone by accidental breezes from the mountains. Moreover, it cools as rapidly as it becomes warm, upon the withdrawal of the great source of light and heat, consequently the nights are rendered cool, notwithstanding the heat of the day. There, as may be inferred, the regularly occurring phenomena of night and day, become the antitype of the more prolonged seasons.

#### SPECIAL CLIMATE OF THE PACIFIC SLOPE.

We will pursue this subject by examining the climatic conditions of the States and Territory upon the sea-coast, proceeding from south to north, comparing each with its parallel portion of interior. All that we know of the general climatic condition of these localities, is deduced from certain general principles of physical geography, as the relation and effect of winds upon climates, this latter obtained from a knowledge of the character of those winds; and the effects of currents of the ocean, upon their temperature and hygrometrical condition. Their special climate is obtained from the observation of their various meteorological conditions, as determined by instrumental means. So far as the special climate of the Pacific coast is known to us, it has been transmitted by direct observation with the ther-

mometer and the rain-guage, whilst the remaining meteorological features, its barometric pressure and its humidity, are to be determined, the first by calculation from its altitude, and the second, only approximatively, by its exposure to such elements or circumstances, as influence the same.

We shall notice this region, then, in the following order:—

1st. California, as contrasted with that portion of the interior, embracing Utah and New Mexico territories. Its spring, summer, autumn, and winter climate,—that of the whole year, together with the winds of each season and the fall of rain. Finally, its adaptedness to the Consumptive.

2nd. The State of Oregon, and that portion of Washington Territory upon the coast, as contrasted with the Columbia Valley. Following the same arrangement as above.

3rd. A comparison of the entire Pacific coast, with the State of Florida, adopting the most eligible localities of each, with the view of showing its greater adaptedness, as a resort for the Consumptive.

#### THE STATE OF CALIFORNIA.

*General Description.*—"West of the Sierra Nevada, and between that mountain and the sea, is the second grand division of California, and the only part to which the name applies in the current language of the country. It is the occupied and inhabited part, and so different in character—so divided by the mountain wall of the Sierra from the Great Basin above, as to constitute a region to itself with a structure and configuration—a soil, climate and productions of its own; and as northern Persia may be referred to as some type of the former, so may Italy be referred to as some point of comparison to the latter. North and south, this region embraces about ten degrees of latitude—from 32°, where it touches the peninsula of California, to 42°, where it bounds on Oregon. East and west, from the Sierra Nevada to the sea, it will average in the middle parts, 180 miles; in the northern parts, 200 miles—giving an area of about 100,000 square miles. Looking westward from the summit of the Sierra, the main feature presented is the long, low, broad valley of the Joaquin and Sacramento rivers—the two valleys forming one—five hundred miles long, and fifty broad, lying along the base of the Sierra Nevada, and bounded



on the west by the sea-coast range of mountains, which separates it from the sea. Long dark lines of timber indicate the streams; and bright spots mark the intervening plains. Lateral ranges, parallel to the Sierra Nevada and the coast, make the structure of the country, and break it into a surface of valleys and mountains—the valleys a few hundred and the mountains two to four thousand feet above the sea. These form greater masses, and become more elevated in the north, where some peaks, as the Shastl, enter the regions of perpetual snow. Stretched along the mild coast of the Pacific, with a general elevation in its plains and valleys of only a few hundred feet above the level of the sea—and backed by the long and lofty wall of the Sierra—mildness and geniality may be assumed as the characteristics of its climate. The inhabitants of corresponding latitudes on the Atlantic side of the continent, can with difficulty conceive of the soft air and southern productions under the same latitudes in the maritime region of Upper California. The singular beauty and purity of the sky in the south of this region is characterized by Humboldt as a rare phenomenon, and all travellers realize the truth of his description.”\*

The foot hills of the Sierra Nevada, which limit the valley, make a woodland country, diversified with undulating grounds and pretty valleys, and watered with numerous small streams which reach only a few miles beyond the hills, the springs which supply them not being copious enough to carry them across the plains. These afford many advantageous spots for farms, making sometimes large bottoms of rich, moist lands. The rolling surface of the hills presents sunny exposures, sheltered from the winds, and having a highly favorable climate and suitable soil, are considered to be well adapted to the cultivation of the grape, and will probably become the principal vine-growing region of California. The uplands, bordering the valleys of the large streams, are usually wooded with evergreen oaks; and the intervening plains are timbered with groves or belts of evergreens and white oaks among prairie and open land.”

Concerning the climate of California, it has been said, that, “summer and winter, in our sense of the terms, are not applicable to this part of the country. It is not heat and cold, but wet and dry, which mark the seasons, and the winter months, in-

\* See De Bow's Review, page 263.

stead of killing vegetation, revive it. The dry season makes a period of consecutive droughts; the winter in the vegetation of this country, which can hardly be said at any time to cease. In forests, where the soil is sheltered—in low lands of streams and hilly country, where the ground remains moist, grass continues constantly green, and flowers bloom in all the months of the year.” “Salubrity and a regulated mildness characterize the climate; there being no prevailing diseases, and the extremes of heat during the summer being checked by sea-breezes during the day, and by light airs from the Sierra Nevada during the night. The nights are cool and refreshing, as is the shade, during the hottest day.”

#### UTAH AND NEW MEXICO.

*General Observations.*—These two territories, which lie contiguous, but interiorly to the State of California, present such a similarity of external conformation, and of general climatic features, that, for purposes of convenience, we may unite them under one general consideration. The former occupies the centre and widest portion of the great interior western plateau; the latter, with Arizona, the southernmost termination of that structure in the possession of the United States. The consideration of their climatic meteorology is altogether based upon the data afforded by the Medical Bureau, made up of the reports of officers stationed at the various posts in these territories. “East of the Sierra Nevada, and between it and the Rocky Mountains, is an extraordinary region, termed the Great Basin.” “It is a singular feature; a basin of some five hundred miles diameter every way, between four and five thousand feet above the level of the sea, shut in all round by mountains, with its own system of lakes and rivers, and having no connection with the sea. Partly arid, and sparsely inhabited, the general character of the Great Basin is that of a desert, but with great exceptions, there being many parts of it very fit for the residence of a civilized world, and of these parts the Mormons have lately established themselves in one of the largest and best. Mountain is the predominating structure of the exterior of the Basin, with plains between—the mountains wooded and watered, the plains arid and sterile.” “In this Great Basin are situated the vast Salt and Utah Lakes, besides numerous smaller bodies of water. The

Humboldt River, within the same limits, is the most important." East of the Wahsatch Mountains and the Mormon settlement, the Colorado River takes its head quarters, bearing upon its bosom the condensed vapors, precipitated on the western side of the Rocky Mountains, following the most direct route to the sea, through western New Mexico to the Gulf of California—a land-locked projection of the sea. "The heat and rarefaction of the surface generally, render this local atmosphere disproportionately arid over the whole Basin region, notwithstanding the frequency of rains at all seasons. A very rapid evaporation is in progress apparently at all times, and it can hardly be otherwise, when even in the early spring the saline plains glitter with crystallizations; dissolved on one day perhaps by the rain, yet formed again almost immediately by its evaporation. Very few of the localities have external drainage, or unite their surplus waters with any stream or lake. Since the rains are frequent at some points, and for some parts of the year, this must be conclusive evidence that the evaporation is very rapid."\* The average differences "between the wet and dry thermometers—the direct test of the local condition in respect to moisture—are twice as great as in the Atlantic States." "The cactus and the artimesia," with many other forms of plants and shrubs, "particularly adapted to arid and alkaline soils," are the conspicuous forms of vegetation.

*Spring of California.*—The western or Pacific part of this continent is much warmer during the spring season, than the eastern or Atlantic. Indeed, if it were not for the interposition or obstruction of the thermal lines, which occurs from the high range of mountains and the extensive mountain plateau, these lines would observe a comparatively uniform course across the whole. But in consequence of these obstructions, these lines are made to vary their course, and present upon inspection a feature of variability and changeableness of climate, equalled only by the completeness of those obstructions. "The principal lines of the Isothermal chart differ five degrees of temperature, and east of the meridian of 100° they divide distance on the meridians with great uniformity. On the Atlantic side the range is thirty-five degrees of temperature for twenty-two degrees of latitude, or, excluding the lower part of the peninsula

\* See Climatology of the United States, by L. Blodget, p. 188.



of Florida, thirty degrees of temperature for seventeen of latitude, which is very nearly a decrease of temperature of one degree for forty miles of distance northward. The same decrease is found in the Mississippi Valley, and on these lines, the altitude does not attain sufficient importance to sensibly affect this result. The Pacific side is too irregular to give comparable measures, but from the parallel of  $30^{\circ}$  to Astoria, the same distance which was taken in the first case, there is but one-third the difference in temperature, or one degree for one hundred and twenty miles northing. If the comparison was carried to Sitka, latitude  $57^{\circ}$ , but five degrees of temperature more are lost; and the same proportion or rate of diminution is still maintained."\* As in the spring, the sea within the Gulf Stream is colder than the continent generally, especially in the months of April and May, reducing the temperature at St. John's to  $32^{\circ}.3$  (the mean spring temperature for five years' observation), so, "on the Pacific," a diminution in the temperature of the sea-waters occurs, especially in May. In March, as is also true of the winter months, the water temperatures are greater than the land. "For some hundreds of miles, on the 40th parallel, there is very little difference in the sea-temperatures for the entire year; and in spring, such observations as we possess, show them to be quite the same between the 35th and 40th parallels for thirty degrees of longitude westward from San Francisco. The observations given in Maury's Chart furnish about twenty measurements for each area of five degrees extent, in both latitude and longitude, and the means are  $56^{\circ}$  to the 125th meridian,  $55^{\circ}.4$  to the 130th,  $55^{\circ}.5$  to the 135th,  $56^{\circ}.4$  to the 140th,  $57^{\circ}.2$  to the 145th, and  $56^{\circ}$  for the last observed area, bounded on the west by the meridian of  $150^{\circ}$  west longitude. These successive results are substantially identical, and they confirm the records at the military posts of the coast, explaining the cause of the singular contrast of these temperatures with those of the interior, in showing very little increase of heat as the summer approaches. It will be seen, by reference to the analysis of the summer distribution, that the sea then remains nearly at the same temperature for seven or eight degrees of longitude off the coast, while beyond that point, it shows some increase of heat for May, and a rapid change for the months of summer. From this evi-

\* See Army Meteorological Register, page 691.

dence, the isothermals would apparently, extend in right lines westward, on leaving the coast in spring, while in summer, they course abruptly northward, after passing the cold mass of waters. The Pacific climates appear to be distinguished for the identity of *the air and water temperature*, so far as observed; at least the differences are so small that it is not necessary to separate them in the purpose of this comparison.\*\*

The temperature of the spring months at California is such, that a very gradual increase occurs of every succeeding month over its preceding. Thus, at San Diego the mean temperature of March is  $56^{\circ}$  (the mean of the water temperature)—the advance of March to April is  $5^{\circ}.2$ —that of April to May,  $1^{\circ}.5$ , and that of May to June,  $4^{\circ}.6$ . At Monterey, the mean of March, being  $51^{\circ}.4$ , the advance to April is  $2^{\circ}.3$ —of April to May,  $3^{\circ}$ , and of May to June,  $1^{\circ}.1$ . At San Francisco, the mean of March, being  $52^{\circ}.8$ , the advance to April is  $2^{\circ}.5$ —of April to May,  $0^{\circ}.0$ , and of May to June,  $3^{\circ}.5$ . This limited number of observations is sufficient to show the truth of the general proposition stated above, each succeeding month showing a relative and somewhat uniform advance over that immediately preceding, except the months of April and May, at San Francisco, when an apparent arrest takes place, in consequence of the intensified physical agencies at work here, not found so operative at any other post.

Looking to the interior, to the west of the Sierra Madre and Rocky Mountains, we find at the single post of Fort Defiance, situated at the head waters of the Rio de Chelly, the mean temperature of March to be  $38^{\circ}.3$ —the advance from March to April,  $8^{\circ}.3$ —that of April to May,  $4^{\circ}.4$ , and that of May to June,  $13^{\circ}.00$ . Here is presented a striking contrast with the former, for neither regularity nor uniformity characterize the rate of advance. Doubtless these differences are attributable to the altitude and continental position of the latter, and the regulating influence of the sea-waters at the former. In the next place, let us examine the general range of the mean temperatures of the spring months.

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\* See Army Meteorological Register, page 690.

*The General Range of the Mean Temperatures.*

| MEAN TEMPERATURE.              | MARCH. |        |       | APRIL. |        |       | MAY.   |        |       |
|--------------------------------|--------|--------|-------|--------|--------|-------|--------|--------|-------|
|                                | High't | Low't. | Range | High't | Low't. | Range | High't | Low't. | Range |
| San Diego, California.....     | 55° 4  | 54° 6  | 30.8  | 63° 7  | 57° 7  | 60.00 | 66° 0  | 60° 7  | 50.3  |
| San Francisco, ".....          | 56° 61 | 49° 79 | 60.82 | 56° 11 | 54° 45 | 10.66 | 56° 38 | 53° 56 | 20.82 |
| Fort Defiance, N. Mexico,..... | 40° 28 | 37° 04 | 30.24 | 48° 15 | 45° 06 | 30.09 | 52° 72 | 49° 16 | 30.56 |

From this table, we observe the limited range of the mean monthly temperatures, both in the interior and along the immediate coast, which secures to them an unusual degree of uniformity of temperature. Taking the entire season at each of the posts, the interior has the greatest uniformity in this respect, although this observation might be reversed if we were in possession of a longer series of observations, for this part of the western slope is infinitely more susceptible and liable to such influences, as are the ordinary causes of wide ranges of temperature. At the post of San Francisco, it is somewhat remarkable that the range of March is so much greater, than that of April, and May—this fact, however, is easy of explanation. It is at this period, that the replacing of the warm waters off the coast by the colder masses of summer, is taking place, which leaves the coast more open to impressions than at other times. Their uniformity in this respect will farther appear, if we contrast them, with the most uniform southern posts on the eastern slope. At Fort Brooke, Florida, the range for March is 16° 90; for April, 14° 41; and for May, 5° 01. At Key West, the range for March is 6° 28; for April, 5° 02; and for May, 4° 20.

A remaining feature is "the range of single observations through the individual months." For "it is important to know to what degree we may expect the temperature to fall, at any single observation, in each of the spring months, in the several districts, or the mean of the maxima and minima, and also to know what is the very highest and very lowest point possible to be attained in a series of years. The line of 32°, as a minimum for each month, is also quite necessary in a practical climatology." "On the coast of California an examination of the minima for five years affords but two instances of the observation of 32° in March; while in the interior and in Oregon, it may be anticipated several times in this month, though the lowest observed points at stations not much elevated is 19°. In April it is never reached in California at the sea level, or near it, and rarely



in Oregon—at Puget's Sound three times in six years. In May, there are no instances of its occurrence on the Pacific coast, except at stations elevated two thousand feet or more. At Fort Yuma, in the valley of the Colorado, the freezing point never is reached in the spring. At all the stations of New Mexico the temperature constantly falls below  $32^{\circ}$  in every month of the spring, and at Fort Defiance, it usually does so in June.”\*

3rd. *The extreme single observations in each individual month, at the different posts.*

|                                | MARCH.       |              |              | APRIL.       |              |              | MAY.         |              |              |
|--------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|                                | Highest Obs. | Lowest Obs.  | Pos. Range.. | Highest Obs. | Lowest Obs.. | Pos. Range.. | Highest Obs. | Lowest Obs.. | Pos. Range.. |
| San Diego, California,.....    | $84^{\circ}$ | $34^{\circ}$ | $50^{\circ}$ | $93^{\circ}$ | $40^{\circ}$ | $53^{\circ}$ | $78^{\circ}$ | $39^{\circ}$ | $39^{\circ}$ |
| San Francisco, “ .....         | $80^{\circ}$ | $34^{\circ}$ | $46^{\circ}$ | $84^{\circ}$ | $42^{\circ}$ | $42^{\circ}$ | $81^{\circ}$ | $43^{\circ}$ | $38^{\circ}$ |
| Fort Defiance, N. Mexico,..... | $69^{\circ}$ | $8^{\circ}$  | $61^{\circ}$ | $75^{\circ}$ | $14^{\circ}$ | $61^{\circ}$ | $89^{\circ}$ | $19^{\circ}$ | $70^{\circ}$ |

We perceive, from this table, that at least once in five years,† the thermometer, in the month of March, at San Diego, will stand at  $34^{\circ}$ —the same point, as at San Francisco, some degrees of latitude farther north, during the period of observation there. The opposite extreme for the same month, is also four (4) degrees higher than the corresponding observation at the latter place, thereby producing a possible range of the thermometer four (4) degrees greater. In April, at San Diego, we may expect additional increments of heat, though they are not expended in rendering more uniform and less extreme the temperature; for the possible range is increased to fifty-three degrees ( $53^{\circ}$ ). A range, from the frost temperature, almost to blood heat, may be experienced at some time during the month at this place. Passing thence to May, we find a decided diminution in the temperature, the highest recorded during the whole period, in that month, being  $78^{\circ}$ , fifteen degrees less than that of April and six degrees less than that of March. The lowest extreme also slightly retires from that of the preceding, being one degree less, although five degrees above that of March. However, May presents less extremity under this head than either of the other months, the possible range of which is only thirty-nine degrees ( $39^{\circ}$ ). At San Francisco, for April, the very -

\* Army Meteorological Reg., p. 697.

† This is the greatest time observed.

lowest recorded point is the same as at San Diego, although farther northward, while the highest is four degrees less, in consequence of which, the possible range is reduced to forty-six degrees ( $46^{\circ}$ ). April shows a marked tendency to the laying aside of the first extreme, for the lowest degree observed is eight degrees ( $8^{\circ}$ ) above that of March; and at the same time there is an addition of four degrees to the opposite extreme, by which the greatest possible range of the thermometer is reduced to forty-two degrees ( $42^{\circ}$ )—a position eleven degrees lower than the corresponding observation for the same month, at the post farther southward, and four degrees less than the first spring month. Passing now to the last spring month at this place, we remark a still nearer approach to conservatism in temperature condition, for a retreat of three degrees from the highest of April occurs, and also an increase of one degree over its lowest. By this difference, however slight it may appear, the possible range is reduced to thirty-eight degrees ( $38^{\circ}$ ). May, therefore, presents the least extremity of temperature condition of the season. Furthermore, a progressive tendency towards the bringing together of these extremes, is manifested from the first to the last month of the season, April being less variable than March, and May, than either.

The contrast, between the two coast stations and the interior post, is so palpable, that we shall not stop to remark upon it, but leave it to the readers of the paper to institute.

4th. *The mean of the monthly maxima and minima.*

|                                 | MARCH. | APRIL. | MAY.   |
|---------------------------------|--------|--------|--------|
| San Diego, California,.....     | 59°.00 | 66°.50 | 58°.50 |
| San Francisco, ".....           | 57°.00 | 63°.00 | 62°.00 |
| Fort Defiance, New Mexico,..... | 38°.50 | 46°.00 | 54°.00 |

Under this representation, the second spring month, at San Diego, has the most elevated mean of the two extremes, while May has the least. And at San Francisco, while April still shows the highest, March has the least. From a careless generalization, it might be concluded that these thermometrical extremes were observed in May, at San Francisco, advancing steadily from March, but such is not really the case, for when properly understood, the fact of a steady decline in the extent to

which the thermometer may fluctuate in the month, is manifest—the highest mean at this place, being the most favorable, and the lowest, the least so. But the great practical inferences from the entire premises, are the commencing recession from the higher spring temperatures of the first and second months along the coast, as the approach to summer is made, and the steady increase from the first spring month to the summer months at the interior post. Both of which find their explanation in the difference of the physical agents at work at the two places. These agents, being, in the first case, the absolute temperature of the sea-waters during the summer and the approach thereto, and in the second, the increasing elevation of temperature throughout the northern hemisphere.

5th. *Winds and Weather for the Spring Season.*—One would suppose, from the difference in the topographical and geographical positions of these respective localities, that quite a material difference in the direction of their prevailing winds, would equally characterize them. But, according to the recorded observations at the posts which we have selected as typical of the general climatic condition of these regions, this difference is more apparent than real. Indeed, the greatest difference exists, perhaps, in the degree of circulation of the atmosphere, and not in its manner. It appears from the record, that, at San Diego, for the month of March, during a period of five years, the greatest number of observations were recorded under the south and west winds—those from the north and east being greatly inferior. At San Francisco, for three years, while the northwest winds were most frequently observed, yet, those from south to west inclusive, were predominant. And at Fort Defiance, the south and west winds, for the same month, were still ascendant. For the month of April, at San Diego and San Francisco, the same winds still prevailed, although at the latter, of the other points of the compass, those from the northwest were most frequent. Fort Defiance, for this month, still manifested great prevalence of the southern and western winds. May, at the former places, maintained the same general characters already assigned them for the preceding months, although the northwest wind prevailed more at San Francisco, than at any other time during the season. At Fort Defiance, this month gave the same result as the others.



The following table will enable us to form some idea of the weather at these places :

| DAYS.                          | MARCH. |         |        |        | APRIL. |         |        |        | MAY.  |         |        |        |
|--------------------------------|--------|---------|--------|--------|--------|---------|--------|--------|-------|---------|--------|--------|
|                                | Fair.  | Cloudy. | Rainy. | Snowy. | Fair.  | Cloudy. | Rainy. | Snowy. | Fair. | Cloudy. | Rainy. | Snowy. |
| San Diego, (5 years.).....     | 18.8   | 12.2    | 7.4    | 0      | 16.2   | 13.8    | 5.0    | 0      | 13.2  | 17.8    | 4.0    | 0      |
| San Francisco, (2 years.)..... | 15.0   | 16.0    | 7.5    | 0      | 17.5   | 12.5    | 9.0    | 0      | 16.5  | 14.5    | 4.5    | 0      |
| Fort Defiance, (2 years.)..... | 26.0   | 5.0     | 3.5    | 4      | 26.5   | 3.5     | 1.5    | 2.5    | 27.0  | 4.0     | 5.0    | 1      |

The respective means for the entire season, are as follows :

|                           |                   |               |                    |
|---------------------------|-------------------|---------------|--------------------|
| San Diego, (5 years)....  | Fair days, 16.06. | Cloudy, 14.6. | Rainy, 5.46.       |
| " Francisco, (2 years) "  | " 16.33.          | " 14.33.      | " 7.00.            |
| Fort Defiance (2 years).. | " 26.50.          | " 4.16.       | " 3.33. Snowy 2.5. |

From this, we perceive, that the fair days at San Diego, barely exceed the cloudy, but are nearly three times greater than the rainy; and that the cloudy days are more than two and a half times the rainy. At San Francisco, the number of fair and cloudy days sustain a similar relation to each other, as at San Diego, although the proportion of each to the number of rainy days, is somewhat reduced, being as two to one. A slight increase in the number of rainy days for the season also occurs here, over those at San Diego. But, at Fort Defiance, a very great proportional increase of the fair days, over the cloudy and rainy, is manifested, the fair being more than six times the cloudy, and eight times the rainy days. However, the proportion of rainy to cloudy days, has greatly increased, over that of the coast stations, being about three-fourths of the latter. The proportion of cloudy days here is greatly diminished from that of the coast, being about three and a half times less; although we have superadded a ratio of 2.5 snowy days, no record of which is made at either of the coast stations during this season.

But what importance is to be attached to the prevalence of the south and west winds? and what are their effects upon their climatic condition? The measure of their importance is altogether proportional to the degree of their effect. In California, the prevalence of these winds produces a totally different effect, from that upon the climate of the vast interior. To the former, they bring warmth and moisture; but to the latter, being forced to overleap the lofty Sierra, they descend cold and dry—thus establishing the fact, before alluded to, that the same winds may have different influences upon different regions, those influences being essentially modified, and in many cases, altogether deter-

mined by the freedom of entrance to such localities. So far as the interior is concerned, it would appear, that winds, from whatever quarter they may come at this season, should be cold in their nature and chilling in their influence, since from west to east, circumferentially, the snow-capped mountains must impart such a character to all winds passing around and above them; and again, those even from the south, blowing fresh from the high table-land of Mexico, itself cold and of rare atmosphere at this season, must also be more or less of a similar character.\* The land winds of California claim but little attention at our hands, for those which have been already mentioned as the prevailing winds of the season, are from the sea, in fact, the range of the sea-winds in regard to the points of the compass, may extend from north-north-east to perhaps due south. But however rare may be the prevalence of the continental breezes, yet they produce quite a marked effect during their limited continuance. They bring down with them upon the expansive valley of the Sacramento and San Joaquin, and upon the contiguous shore line, the chilliness of the mountains, and condense the existing moisture of the atmosphere at the particular place into the more sensible conditions of mists, fogs, etc. Indeed, at the close of this season, when the sea-waters act as a refrigerator to their own atmosphere, and by the general atmospherical circulation, this is borne inland, that state is induced voluntarily and without the intervention of cold mountain breezes, which we have supposed the latter likely to produce.

It is important to know the number of fair, cloudy and rainy days of these localities, because they influence, to a great extent, the amount of out-door labor and exercise, that may be enjoyed by a resident—a point, which is considered by many writers as the *sine qua non*, in the management of the consumptive. They are the more noticeable at this season, because of its known variability and changeableness at most places, and for the various perturbations of mind and body, which they produce in the well and the sick.

6th. *Rain in Inches*.—As the eastern part of the United States is termed “an area of constant precipitation,” so the Pacific

\* To this assumption a partial exception may be found in such winds, which, having their origin about the Gulf of Mexico, follow the Rio Grande Valley to the southernmost part of the interior valley, which we are considering.

or western portion is appropriately characterized, as an area of periodical precipitation—the usual mode of distinguishing its seasons, being that of the wet and dry. Indeed, so prominent and powerful is this division, that it is said to be the great reason, why the man from New England expresses such dislike of the climate of this western state. Having been accustomed to the regular succession of the four grand divisions of the climatic year in the temperate zone generally, it is difficult for him to become pleased with this sudden change to a uniformly and constantly precipitating condition, regularly alternating with one of great dryness. It would appear from an inspection of the hyetal chart given in the Army Meteorological Register, by the shading which is so graduated as to represent those regions, having the least and greatest precipitation at this season, that, as the sun crosses the equator and commences his circuit through the northern hemisphere along the ecliptic, the dry season of the Pacific slope commences. The degree of precipitation retreating northward as he advances in his majestic course to the tropic of Cancer, and in turn with his retreat from this point, it advances southward. The spring months would seem to be, both the termination of the wet season and the beginning of the dry, for more rain falls during the first month of the season along the coast, than in the remaining two, which have an extremely small amount. In the interior, as at Fort Defiance, less rain falls at this season, than during the summer and autumn, the rainy and dry seasons, being reversed here—which fact is accounted for, by reference to the local disturbances that occur to the equilibrium of the atmosphere, in consequence of the structural conformation of the territory—in other words, the rains are more the result of those local condensations, which take place around and about high mountains, than of any general hyetal distribution. According to our reasoning upon the influence, which the winds exert upon the climate of these localities, we should expect less rain in the interior, than along the coast. Accordingly we find, that at San Francisco, the mean for the whole season, is 8·81 inches, and at San Diego, 2·74 inches, while at Fort Defiance it is 2·91 inches.

Considering the various data presented, we arrive at the conclusion, that the degree of humidity of atmosphere indicated at these places, is not relatively high, and cannot therefore be enter-



ed as an objection against them, as places of resort for the consumptive. If we regard the fall of rain along the coast, and compare it with that along the west coast of Florida at this season, it will be seen, that it is comparatively less. The humidity of atmosphere is certainly not excessive, for its sources are limited, when compared with other regions. If, then, we assume a moderate dew-point for the coast stations, and take in connexion with it, their mild and equable temperature condition, we think that no available objection can be urged against their spring climates.

(To be continued.)

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ARTICLE XVI.

*Pharmaceutical Education for Medical Students.* BY ROBERT BATTEY, M. D., of Rome, Ga.

PHARMACY, which for ages occupied the position of a mere art, and a very simple one at that, has, during the past half century, gradually aroused itself from this long sleep and is now making giant strides towards a degree of perfection little dreamed of in the philosophy of its ancient votaries. The elixirs and amulets of our fathers are remembered only with a complacent smile in our conscious superiority; ignorance and superstition have given place to the light of reason and inductive philosophy. A commendable industry and zeal is manifest among pharmaceutists all over the world, vieing with each other in ransacking the nooks and corners of the great storehouse of nature, in quest of hidden treasures to be added to the rapidly augmenting fund of the *Materia Medica*; while, foremost among the evidences of progress in manipulative pharmacy, we have the isolation of the distinct active proximate principles of plants from the inert and valueless ligneous fibre, and the substitution of small doses of these refined materials, for the former large draughts of nauseous infusions and decoctions. The hidden and mysterious action of amygdaline upon emulsion, which goes on, all quietly and unobserved in the moistened cherry barks, has been industriously ferretted out, and for our reward, we have the elegant *Symphus Runi Virgin*, with its due proportion of the potent hydrocyanic acid.

While physiological chemistry and analyses of the blood and urine in health and disease, point out the deficiency, pharmacy proffers the remedy, combining the needed elements in due and proper proportions. Well may pharmacy point with pride to her triumphs in the careful proximate analysis of organic drugs, the judicious selection of suitable menstrua, and the isolation of all valuable principles from them, in that most elegant and desirable class of preparations—the fluid extracts. The resins resinoids and oleo-resins also evidence laborious and successful research. Time would fail us to mention a tithe even, of the long list of alcoholic and their derivatives (among which are sulphuric ether and chloroform) as well as the multifarious preparations from the mineral kingdom.

Not only has pharmacy thus distinguished herself in her chemical capacity, but she has been equally busy in the improvement of her extemporaneous and more mechanical departments. The subtle æriform spirit, so full of death to any who breathes it, has been chained down in its watery bed by strongest bonds of iron, whence from time to time it issues forth under the guiding hand of the master, in the sparkling and healthful mineral water. The disgusting epsom or glauher salt no longer distorts the visage of the invalid—but he drinks his glass of effervescing citrate with as much gusto as he would take his champagne or julap, when in health—his castor oil or copaiba glides smoothly along his alimentary canal, securely stowed in the hold of a tiny gelatine boat; his pill no longer offends the palate nor sticks fast in his reluctant throat, but with its firm casing of purest sugar, slips swiftly down; and, if he be a miser at heart, he may have it at his bidding, clothed in all the charms of glittering silver or still more precious gold.

The Philadelphia College of Pharmacy has contributed largely to this reform; many of her graduates have gone forth in the land bearing the torch from her altar to kindle yet other beacon lights, and dispel the darkness which had enshrouded pharmacy. Some of her alumni have reached our own Sunny South, and with their little sheep skins, scarce bigger than an ordinary window pane, unadorned by any high sounding doctorate, have made their influence felt and acknowledged among us. With the other legitimate offspring of this pioneer institution, stands the American Pharmaceutical Association, which holds its annual

deliberations, and already publishes in its proceedings an octavo of size and matter well worthy a place in every medical library. The scientific papers discussed at its meetings, for originality and enlightened laborious research, will compare favorably with like contributions to the American Medical Association; and it is not too much to ask and expect, that the former body will be admitted to a full participation in the deliberations of the convention to be called for the next revision of the national Pharmacopœia.

The spirit of the age is progress—upward and onward is the watchword we catch on every hand; in perhaps no department of natural science is this progressive disposition more manifest than in the one under consideration. Scientific pharmacy is no longer a mere abstraction—it is full of practical results; nor is its advancement premature—the people have kept up fully with the times, and eagerly seize and appropriate to their comfort and advantage the new remedies as fast as they are brought forward. Its products are not to be confined to the more refined and opulent denizens of our larger cities, for the humble settler in his backwoods cabin is beginning to hear the sound of glad tidings, and already demands that the more palpable impositions upon his gustatory nerve shall cease, and calls for less bulky nauseous remedies. The voice of the masses is loud in favor of the reform, and the old foggy, or his younger pupil, who refuses to inform himself that he may keep up with the improvements, while he continues to laugh at the disgust and wry faces of his patrons, will find his more enterprising and worthy competitors sweeping by him in their onward march to a deserved fame and popularity.

Who that has observed the career of that system of arch humbuggery—Homœopathy—can fail to have learned that much, very much of the popular favor to which it has at times attained, is due to the palatableness and supposed refinement of their little sugar pillets. That more pitiable form of quackery—pitiable on account of the gross darkness and ignorance which has invested it—Thompsonianism, was forced to abandon its feeble battery of huge quart mugs, and beat an inglorious retreat before the popular frown, until—lucky hit! donning some of the borrowed plumes of progressive pharmacy, and armed with its crude reismoids and “essential —ines,” it is still able to wage a fitful, skirmishing warfare—sometimes, indeed, successfully—overcoming the more ignorant and weakly members of a higher and nobler band.



It would seem that the importance, yea, absolute necessity, of a more thorough pharmaceutical education for the physicians of our country, and particularly of the South and West, would scarcely need argument; indeed the bare mention of the subject should meet a hearty approving response from every medical man. Who among the multitudes of physicians, spread far and wide all over our land, is not subjected to the frequent annoyance of failure in the actions of the remedies he employs, from their impurity or want of strength, growing out of ignorance, carelessness, or cupidity on the part of his druggist? Who is there that does not almost daily feel the want of requisite knowledge to supply the demands of the peculiar indications and idiosyncracies of his varied cases? Who is ignorant of the fact that, while our drug law has wisely interposed its arm of power to protect us from foreign adulteration and sophistication of remedies, the examiners who are chosen to execute it, are chosen more for political effect than for any competency they may possess for the discharge of this responsible duty? Who, moreover, can be uninformed of another fact, that while foreign villany is thus, in some degree, held in check, a wide door has been open for wholesale adulteration at home? Who is not already aware that hundreds, perhaps thousands, of our countrymen annually reach an untimely grave from the criminal ignorance of both physicians and apothecaries? It is, indeed, but too true—lamentably, *shamefully* true! Within the limited knowledge of the writer, on many such cases, the unwitting substitution of poisonous doses of sulphate of morphia for the quinia salt, arsenious acid for emetic doses of tartarized antimony, corrosive sublimate for calomel, careless preparation of strychnia pills, and other such examples of the shedding of the innocent blood of the unsuspecting patient; like the maniac loosed from his bonds, they go about with deadly weapons, shooting in the dark, they care not where, and know not who. The heart sickens at these deeds of mental and moral darkness, and cannot brook an argument upon the question.

So generally is the want of pharmaceutical knowledge among physicians felt and appreciated, that many are induced to seek the schooling of the apothecary's shop prior to entering upon the study of medicine; while others, already practitioners of pharmacy, are led to graduate and enter the medical fraternity, as a

means of greater professional elevation and emolument. It is evident that very few, comparatively, of our medical men can obtain this schooling in the shops, requiring, as it does, a series of years before an apprentice is judged competent to execute the more responsible manipulations. However well this apprenticeship system may work in England, and however desirable so thorough pharmaceutical attainments may be to the medical man, there is too much valuable time consumed in the pupilage to suit the fast ideas of our aspiring young men.

The office of the preceptor might be, and ought to be, a valuable preparatory school of pharmacy, as well as of other branches of medical science. What are the facts? The observation is common, that the medical instructions of the majority of preceptors amount to little more than the use of a few text books from their too meagre libraries, with an occasional explanation, and a rather semi-occasional examination upon the leading topics of study. Pharmacy as a science, or even as an art, is very rarely mentioned, and seldom, perhaps *never*, taught; and if we ask the reason of this, we shall not be at a loss for an answer. The preceptor himself knows little or nothing of the subject, and of course cannot be expected to teach it—what little he has acquired has been the result of hard earned experience; let his student dig it out as *he* did.

We next look for the attainment of this instruction to the medical colleges of the country, and with what better success? With, I believe, but one honorable exception (the University of Michigan), no distinct chair of pharmacy is to be found. In most instances it is attached either to the chair of chemistry or materia medica, and in some of these a meagre outline of the subject is given, while the majority, perhaps, retain only the name, and find no time for the practical instruction; some few, it is believed, do it not the honor of even mentioning its *name* in their annual announcements. In some of the larger cities this deficiency is in a measure supplied by public or private pharmaceutical schools, but from inability or indifference the great majority of students do not avail themselves of these extra privileges, while much the larger number of colleges are located in cities where these private schools are not accessible and cannot be maintained. Besides, it is unquestionably the *right* of the student to look to the regular course for this indispensable knowledge; as well

might the school refer him to the hospital for his instruction in surgery; to the private anatomical room for his anatomy; or to the private laboratory for his chemistry.

If, then, this almost total neglect of pharmacy be an admitted evil, one which should be removed—and who will gainsay the assertion—where are we to look for the remedy? If I might be permitted to express an humble opinion in the matter, and suggest the probable means, I would say, let our older practitioners, who have leisure and application, together with their younger brethren, who desire to keep pace with the times, possess themselves of a copy of some standard work upon pharmacy; and this, not as an idle tenant of the bookshelf, but let them study its precepts closely, and put them in practice in the routine of their daily business. Let them learn these precepts, and the practice to their pupils, before sending them to college.

There is, perhaps, no work upon the subject for physicians published in this country, or indeed, abroad, so richly laden with sound practical knowledge as that of Edward Parrish, of Philadelphia—a name which is as a “burning and shining light” in the firmament of American pharmacy. Of the work itself it is not too much to say, that studied and properly appropriated, it is cheap though it should cost its own weight in fine gold. In the graphic language of the venerable Dr. Meigs, used upon a lecture occasion with reference to a work of perhaps equal intrinsic value, I would say to every medical student, “when you shall have possessed yourself of your sheep skin, and are about to take your departure for home, if you shall have but *two shirts* to your wardrobe, sell one of them and *buy the book*”—what matter if you go home with a dirty shirt upon your back so you but carry in your hand the means of your professional elevation.

In our college courses upon chemistry much valuable time is spent upon the laws of heat, light and electricity—important and interesting topics—not perhaps too fully taught, but yet it may well be questioned, whether the more practical details of pharmacy, bearing, as they do, upon the every day experience and wants of the practitioner, are of greatly more *real* value. It is *well* to have the ability to discourse learnedly upon the laws which govern the imponderables, but it certainly more *practical* to be able to dispense an eligible and scientific compound



for the relief and cure of one's patient. By devoting one half or more of the time usually allotted to these to pharmacy, much valuable instruction could be given, and the profession thereby greatly benefitted. The chemical chair, however, is already overburdened; time cannot ordinarily be found in our short terms to so far elucidate the various topics as to give the class any adequate knowledge of the subject. It is notorious that few know anything practically of the science, nor do they pretend to any degree of proficiency. The mass of the candidates single out this branch as their lame one, and more than all else usually dread the ordeal before "old ———" (the chemist) in the green room. The subdivisions of organic and physiological chemistry are daily becoming more extended in range of topics, and more useful and important in results—it is highly desirable that the standard of education should be more elevated in this direction. Look now to the chair of *Materia Medica*, and we find medical botany, together with the varieties, physical properties, qualities and adulterations of drugs so inadequately taught, as to leave but little lasting impression upon the mind of the hearer. The whole subject is exceedingly dry and uninteresting—and why? Not always from want of ability on the part of the professor, but rather from the hurried manner in which the subjects must be discussed, from which cause the student gathers an insufficient amount of information to appreciate and enjoy the lecture; so he must often go forth into the world dependant upon the interested drug man for the selection of his medicines, and perchance to mourn over the dead bodies of his victims through his want of attention to the study of these subjects.

The only efficient mode of teaching these several branches, and giving them the position, which their practical utility, as compared with the other departments of medicine, demands, would seem to be the addition of a chair of pharmacy, to lighten the labors of the other two, as well as to teach extemporaneous and manipulative pharmacy proper. Such an innovation upon old usage, would not only be productive of much good to the profession in elevating the educational standard, but would likewise equip our medical colleges with all the facilities and advantages of a well regulated college of pharmacy, and enable them, in the three chairs alluded to, to extend facilities for education to such pharmaceutists, and their clerks and appren-

tices, as have not enjoyed these advantages, in places where no regular organization exists for their benefit. The question of policy might also be entertained—whether or not diplomas, or certificates of proficiency in their branch, such as are granted by the Philadelphia College of Pharmacy, should be bestowed upon these pharmaceutical students after examination at the close of a second course. Next to a well educated medical profession, we need intelligent and professionally accomplished apothecaries; and it is, perhaps, worthy of thought, whether the general adoption of this system, of educating apothecaries in conjunction with students of medicine, would not have a tendency to infuse a more high minded and professional spirit into the former, and, perhaps, in a measure, wean them off from their quacking proclivities, by attaching them more strongly to our profession.

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*Lectures on Asthma.* Delivered at Hotel Dieu, by Prof. TROUSSEAU. Translated from the Gazette des Hopitaux of September 23d, 1858, (for the Boston Med. and Surg Journal).

LECTURE IV.—EXAMINATION OF THE OPINIONS OF THE MEDICAL PROFESSION AS TO THE NATURE OF THIS DISEASE.

ACCEPTING the ideas of M. Louis, M. Rostan admits that asthma may be associated with pulmonary emphysema. This opinion is presented under a very specious aspect. Always finding pulmonary emphysema in asthmatics, M. Louis has concluded from this fact that this organic lesion is the cause of the malady; to him dyspnœa and asthma are one and the same thing. Whenever an individual is presented to him affected with essentially nervous asthma, he diagnosticates emphysema, of which percussion and auscultation, it is true, often reveal the existence. At the same time it would be easy to show him cases in which the nervous affection does not coincide with the pulmonary lesion in question. Thus, for example, in the case of the patient lying in bed No. 10 of our Saint Agnes ward, who has been asthmatic for many years, there exists, at the same time, emphysema with pulmonary catarrh; there is also an asthmatic woman in No. 6 of Saint Bernard ward. In her, as many of you have personally observed, there is not a single symptom of emphysema; respiration is everywhere free and full.

Nevertheless, the facts quoted by M. Louis have been rigorously observed, but their import has been exaggerated. I shall proceed to explain to you how he has arrived at his conclusions.

Under what conditions is emphysema produced? Is it a primary or secondary affection? For my part, I do not comprehend how it can be a primary condition, and I cannot make you understand how it is an effect, not a cause of asthma, without entering into some details relative to the mechanism of its production.

And in the first place, what is the mechanism of cough? After an inspiration the glottis is convulsively closed; the expiratory muscles are brought into play to expel the air or mucus from the bronchial passages, the blood or the pus which they may contain. It is often only after most energetic efforts that these powerful expirations triumph over the resistance opposed to them. But what is taking place during this effort? There is a pressure in operation from within outward, acting on the bronchial tubes and the pulmonary vesicles. This pressure is transmitted outside of the chest by the swelling of the vessels of the face and neck, toward which the blood is forced by the compression of the vascular ramifications which are distributed in the lungs. The air imprisoned in the bronchial apparatus struggles against the elasticity of the walls of the pulmonary vesicles, and when the pressure is continued for a long time and energetically repeated, when the resistance opposed by the obstacles which prevent the exit of the air contained in the chest is too great, the walls of the vesicles are stretched, and emphysema is produced. Sometimes even the pulmonary vesicles burst, and there results an interlobular emphysema, with which we will not occupy ourselves at present.

When we think of this mechanism of the production of pulmonary emphysema, we are no longer surprised at finding it in infants who have had a violent whooping cough, in individuals subject to catarrhal affections, &c. Now pathological anatomy, in showing us the frequency of this lesion as opposed to the rarity of asthma, furnishes us with arguments against M. Louis's opinion; in fact, vesicular emphysema is observed in autopsies of individuals who have never experienced anything like asthma.

Everything, then, proves that pulmonary emphysema cannot be the cause of asthma. On the one hand, there is no relation between the organic lesion which necessarily remains, or at least does not disappear for some hours, and the transient symptoms which characterize the access of the malady,—on the other, the symptoms exist without the lesion, and still more the latter may exist without the former even having been manifested.

But, if it is not the cause of asthma, emphysema may be the effect, and I proceed to explain how.

On the one hand, in the asthmatic, inspiration is more slow, more full than in an individual whose breathing is free, notwithstanding that expiration, instead of occurring passively, as it ordinarily does physiologically, in virtue of the simple elastic force of the lungs and the relaxation of the muscles which have been brought into action during inspiration, in this case is active, more



violent; and yet, notwithstanding these efforts, the air is expelled more slowly than it is in the normal condition, by reason of the obstacle opposed to its passage through the spasmodically contracted bronchial tubes. We can comprehend by this how, the malady continuing for a greater or less length of time, these efforts of expiration being repeated at each attack, returning at longer or shorter intervals, during one, two, ten or more years—we can understand how, these attacks being thus accompanied by a cough which gives rise to expiratory efforts more and more energetic, pulmonary emphysema is the result.

According to M. Beau, asthma is the result of a chronic catarrh of the small bronchi, in which the sputa are of a density and viscosity which are only found in this complaint. The dyspnœa is caused by the interruption to the exit of the air from the bronchial vesicles, caused by the presence of this thickened mucus in the ultimate ramifications of the bronchi. Laennec had pointed out the existence of these sputa, which he called pearly sputa (*crachats perlés*), in this variety of catarrh, to which he gave the name of dry catarrh, and which is nothing but asthma. These sputa, which the asthmatic expectorates in fact after his attack, appear under the form of mucous globules of the size of a grain of hemp seed. Never mixed with air, semi-transparent, of a greyish tint, sometimes blackish, a color due to the presence of black pulmonary matter, they sometimes lose their globular form, their density, and become slightly pearly.

M. Beau, who was familiar with the ideas of the illustrious author of mediate auscultation, who had himself observed facts agreeing with his theory—M. Beau goes on to say, that in asthma there is in the bronchial tubes an accumulation of this excessively plastic secretion; that we ought not, therefore, to be astonished at the distress suffered by these patients, the products of the plastic secretion acting as plugs in the bronchial tubes as completely as the false membranes in croup, or as foreign bodies—beans for example—which have entered the air passages. The loud and sonorous râles which are heard in auscultating these patients, are caused by the vibration which the column of air experiences in passing the mechanical obstacle opposed to it by the plastic mucus which it meets. This theory is somewhat specious; nevertheless, it is easy to combat it and to overthrow it.

Let us suppose an individual affected with croup, in whom the bronchial tubes are obliterated by diphtheritic false membranes; will this individual show us paroxysmal attacks of dyspnœa, such as we find in the asthmatic? Observe what takes place in the patient No. 19 of Saint Agnes's ward, and who is affected with a bronchial catarrh with a most abundant secretion. In this individual, who raises from time to time an enormous quantity of purulent mucus, filling his cup, the mucus evidently accumulates during a certain time in the bronchi, and yet he experiences

nothing which resembles the attack of dyspnœa of the asthmatic. But, it will be said, in him the secretion takes place in the large ramifications of the bronchi, and consequently there is no obstacle to the passage of the air, since the trunk of the bronchial tree is large enough, notwithstanding the presence of the catarrhal matter within it to allow the air to circulate with sufficient freedom. What proves that the accumulation takes place in the last ramifications is, that on auscultation you hear perfectly sonorous and very fine mucous râles. In regard to the abundance of the expectoration, it is evident that in this individual the obliteration of the bronchi is far more general, far more complete than it is in those who only raise little mucous, pearly sputa; and yet, I repeat, our patient experiences nothing analogous to the attack of dyspnœa belonging to asthma.

But, supposing that these pearly sputa are the cause of the difficult respiration which characterizes asthma, M. Beau will allow that this mucous secretion takes some time in forming. Now, the invasion of the attack of asthma takes place with a rapidity which has no relation to the existence of the cause summoned to explain it. The influence of a moral emotion, of dust, and of dust of a nature peculiar in its effects on particular individuals, in one case the powder of ipecac, in another of oats, &c., which is sufficient to provoke immediately an attack of asthma—is it sufficient to excite as promptly the mucous secretion in question?

Further, there are individuals who, subject to what Laennec designated under the name of dry catarrh, raise, by coughing, mucous and pearly sputa, and raise them with extreme difficulty. They have most violent fits of coughing, brought on by a sensation of oppression, of tickling in the chest and at the orifice of the larynx, and yet these people never have dyspnœa, never an attack of asthma.

Finally, there are asthmatics, few in number it is true, in whom you will seek in vain, either at the beginning, during, or after an attack, for signs of catarrh.

Thus, in an etiological point of view, the theory of catarrh is as inadmissible as the theory of asthma exclusively symptomatic of an affection of the heart or great vessels, or the theory of emphysema. These theories are also much more inadmissible in a therapeutic point of view. When the question of treatment arises, I shall tell you that in a few moments an inhalation of the smoke of the datura, or of the vapor of nitre, is sufficient to cut short completely the attack. Now, I ask you, would it be so, if we admitted that the disease is exclusively dependent on material lesions or mechanical causes?

#### NATURE OF ASTHMA.

In considering the facts which I have rapidly and briefly unfolded to you, when we come to ask what is, definitely the nature of

asthma, one is tempted to compare it to the other spasmodic diseases of which the pulmonary apparatus is the seat. Whooping cough immediately occurs as an analogous disease.

An individual is taken with a catarrh, which during seven or eight days has no other characters than those of the most simple bronchitis; then supervene convulsive attacks, which nothing can control, returning every hour or two, sometimes at longer intervals, and lasting hardly a minute to a minute and a half. During the interval the patient suffers from nothing but the symptoms of a common cold. His expectoration shows nothing peculiar. If this individual were to cough five hundred times you would hardly be able to count twenty or thirty fits of convulsive cough.

You are dealing, then, in this case with a catarrh, but a catarrh to which is added a nervous element, which authorizes you in turn to characterize the whole malady. This nervous element characterizes it so well that, under some circumstances, rare to be sure, it is the only distinguishing trait. I have for more than twenty years called attention to this capital fact, of the spasmodic element being able to exist alone. Among other examples, I have cited that of a child in my service at the Necker Hospital, who, for the first eight or ten days, presented nothing else as a symptom of whooping cough but a hiccough, which returned eight, ten and fifteen times in the course of twenty-four hours. He had not coughed before, and he did not cough yet. After eight or ten days he had some fits of coughing, and soon presented all the symptoms of a catarrh, which from that time kept pace with the spasm.

I have already said, and I repeat it, the case is the same with those affected with asthma; if most frequently they present all the phenomena of catarrh, and sometimes of a violent catarrh, in a certain number of cases there are no such symptoms.

We are right then in admitting with Willis, that asthma is a nervous affection, that the paroxysms of dyspnoea which characterize it are the result of spasm, which, by closing more or less transiently the bronchi, interferes with the free circulation of air in the lungs, and causes all the symptoms.

The labors of Reisseisen, the more recent labors of others, particularly of M. Gratiolet, who had an opportunity of studying the anatomy of the lung of an elephant which had died in a menagerie, have demonstrated the muscular structure of the bronchi. By what right, then, shall we refuse to these muscular tubes the possibility of being the seat of spasms, when we admit the possibility of their occurrence in other organs having a similar anatomical structure? By what right shall we deny the existence of bronchial spasms, when we admit the possibility of vesical and intestinal spasms, spasms of the stomach and urethra?

If physiology leads us, *a priori*, to the possibility of their production, we can no more withhold our belief when we study the pathological facts. Consider what occurs during an attack of



asthma. The patient feels a sense of constriction in the chest. The energetic efforts of the inspiratory muscles are ineffectual to facilitate the act of respiration. It appears as if there were, and there really is, an obstacle to the entrance of air into the bronchi ; for if you auscultate an asthmatic patient during the attack, you will hear neither râle nor vesicular murmur, which you hear as soon as the attack has passed off. And meanwhile the inspiratory muscles are in violent action to make a vacuum in the chest, where the air, nevertheless, does not enter. That which is opposed to the entrance of the air is, then, an obstacle in the bronchial tubes. We have seen that it is not a material obstacle, like mucus ; it is a spasmodic contraction of the bronchial tubes themselves.

Other theories have been devised. While recognizing with us the nervous nature of the disease, M. Bretonneau believes that the dyspnœa in asthma is occasioned by a violent congestion of the lungs. According to him, there occurs in asthmatics something analogous to what happens in the case of the aura epileptic of the congestive form. Thus, in some individuals, in reality the aura epileptica is only painful, simply a painful sensation ; which, starting from some point of the body, the thumb for instance, mounts rapidly toward the head, and is more or less immediately followed by a convulsive attack. In others, the aura is accompanied by a congestive movement evident to the the sight. If it start from the hand, this swells, and the fingers are violently constricted by the rings upon them ; this lasts one, two, or three minutes, and the attack comes on. This congestion is as essentially nervous as that which causes blushing of the face under the influence of moral emotions. M. Bretonneau believes that in asthma there is a similar congestion, which, obliterating the pulmonary vesicles and ramifications of the bronchi, is the cause of the dyspnœa, and produces subsequently the mucous secretion, which we generally observe, in fact, at the end of the attack.

However great the admiration which I profess for M. Bretonneau, my first and excellent master, I have always opposed this view of the case. I do not comprehend this aura, I do not seize upon all this ; while I do comprehend, I do seize upon the asthma ; and furthermore, I do not comprehend how the phenomena could occur otherwise.

Thus asthma is a nervous disorder ; and furthermore, it is a nervous disorder of habit. It is very rare, indeed, that this affection does not depend for its existence upon a chronic diathesis. It is this which I shall try to demonstrate in another lecture.

S. L. A.

*M. Trousseau's Treatment of Rheumatism.*

•IN the Salle St. Agnes, under the care of the same physician, (Trousseau,) is a young man, aged twenty, who is just recovering from acute rheumatism, belladonna, one of M. Trousseau's favorite remedies in this affection, having been, to the exclusion of everything else, the only medicine employed. The rheumatism was of the articular kind, affecting chiefly the large joints. The fever ran high, the heart's action was violent, and the "bruit de soufflet" very distinct, accompanied with pain on pressure over the cardiac region. Belladonna was administered in the following proportions: One grain of the extract was given on the first day; two grains on the second; two and a half on the third; three on the fourth; and so on progressively up to six grains per diem. On the fourth day the constitutional effects of the medicine became apparent, as was evinced by spectral illusions, delirium, dilatation of the pupils, foul tongue and parched mouth. Consentaneous with these symptoms, an amelioration in the rheumatic pains was observed. Notwithstanding this improvement, the belladonna has been continued; and although the patient is all but free from pain, M. Trousseau deems it prudent to prolong the treatment, with a view to the prevention of a relapse. In certain cases, Trousseau, and other hospital physicians here, are in the habit of commencing with the maximum dose noted above; and we have known it prescribed to the extent of eight grains of the powder or extract on the first day of the treatment.

The rule is, that each day the dose be increased until delirium sets in; at this point the same dose is continued for a few days, then gradually diminished; it is, however, essential that the bowels be kept open by the administration of some purgative, such as calomel and jalap every day. From what we have observed, there seems to exist a kind of antagonism between belladonna and rheumatism; and the same has also been observed in reference to this same affection and the constitutional effects of quinine. Without seeking for an explanation of this peculiar antagonism, we must, in the meantime, at least, content ourselves with the simple observance of the fact, as the very individuals who are in the habit of employing these remedies do not pretend to enlighten us as to their *modus operandi*. Trousseau himself is of the opinion that, in the case of belladonna, its curative influence in rheumatism is attributable to its action on the circulatory system; this action, however, being but secondary to the effect it produces on the nervous system. At one time he is to be found treating all cases of rheumatism, apparently without distinction, with quinine, while at another belladonna is his specific, to the entire exclusion of every thing else. This apparent incon-

sistency disappears when one really knows and can appreciate his motives. Close and philosophic observation has enabled him to recognize something special and peculiar in its character and form, during certain seasons, which is not to be found in it at others; and hence the treatment, which may be suitable in one series of cases, he finds does not answer in another. What this peculiar modifying influence may be he does not of course know.

[*Cincinnati Lancet and Observer.*

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*Fistulæ in the Perinæum.* BY WM. M. EAMES, M. D.

Mr. M., of Windsor, Ohio, æt. 72, received an injury in the region of the perinæum, several years since, which caused symptoms of stricture of the urethra; and about five years ago caused complete retention of urine. All attempts to pass a catheter proved unavailing, and after several days of intense suffering the urethra gave way, and the result was that several fistulous openings occurred in the perinæum and scrotum. The urine passed through these openings during the act of micturition—which act was always attended with great pain and scalding; and as the patient could not retain his urine, more than from half an hour to one hour at a time, his life was one of continual suffering. There was also a profuse discharge of pus, which, with the pain and irritation, had induced great debility and hectic fever, and he was obliged to keep his bed most of the time.

When I first saw him, he had been three years in the above-described condition, and was, as he expressed it, “very anxious to be either *killed* or *cured*.”

The stricture was just below the membranous portion of the urethra, and seemed to be an inch and a half in length and of a hard, gristly nature.

I used a small-sized, flexible metal bougie, with the point rather blunt, and after repeated efforts succeeded in passing it through the stricture. The bougie was withdrawn in a few minutes and a small silver catheter introduced, and at least three quarts of urine came away with a quantity of mucus. The catheter was retained in the urethra for several days, and only removed to clean it, and no more urine passed through the fistulæ. An injection of a solution of sulphate of zinc and also a weak solution of nitrate of silver were used three or four times; balsam of copaiba and infusion of uva ursi leaves were administered, and the patient was instructed how to use the catheter, whenever he wished. The openings in the perinæum and scrotum all healed up, and the general health was restored, but he could never pass his urine without the catheter. This patient died very suddenly in about one year, of disease of the heart, with which he had long been troubled—[*Boston Med. and Surg. Journal*



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*Erysipelas and Scarlet Fever.* By EDWARD WARREN, M. D.,  
Newton Lower Falls.

IN Vol. XLVIII. of this Journal, I gave an account of a disease which prevailed here epidemically, about the year 1852 and 1853, taking various forms, from that of common inflammation to those more serious; cellular inflammation, malignant pustule, erysipelas, &c., all of which I was disposed to comprehend under the general name of irritative fever.

Since that period, there have been no fatal cases until this last spring. The health of this neighborhood has been remarkably good, although some faint returns of the epidemic have been seen every summer and winter, about the first of August and last of February; at seasons, in fact, when the animal system is relaxed by the continued heat of dog-days, or by the occurrence of mild wet weather in winter, after the system has been strongly braced up by the continued cold.

The malignant pustule is very common at those times, and is attended with an amount of constitutional irritation perfectly surprising, as proceeding from a local cause apparently so trivial; often from a little blister upon the finger-joint, or a point like the prick of a needle.

During the general prevalence of influenza last spring, this disorder again became prevalent. Scarlet fever was also common, and several fatal cases occurred. In my former communications, I mentioned several cases which appeared to be very dubious. I will now adduce several more.

Two patients died of what was considered scarlet fever; I did not see either of them. In a neighboring house, a lady, the mother of a family, had an inflammation of the eyes of an erysipelatous character. After her recovery, one of her children was taken sick with vomiting, slight sore throat, with a rash of rather dark scarlet, perhaps I might say crimson. This rash continued out several days. Another child was then taken, and then a third, with the same symptoms. In the third case, the eldest of the three, the symptoms were all more severe; there was a rash covering equally the whole face and body, intense itching and stinging, depriving her of sleep at night, and more soreness of the throat than in the other cases, but not severe or alarming. In each case, the sore throat was of short duration.

In another house in the neighborhood of these two, two children were taken ill of what was considered scarlet fever. They recovered without medical attendance. While they were recovering, another was seized severely. He had severe sore throat, rash covering the whole surface of the body, and all the usual symptoms of severe (but not malignant) scarlet fever. I gave him a mixture of muriatic acid with confection of roses and cochi-

neal, with Dover's powder. About the day after I saw him, a fourth in the same family was taken violently with similar symptoms. The sore throat was not severe, the rash was well out. There was great restlessness and irritation. I gave her the muriatic mixture, and Dover's powders. The next day, I found her much relieved, and I thought she was likely to recover. On my visit the next morning, I was astonished to learn that she was dead. She had suddenly become worse, continued to grow still worse through the day, and died in the night. In this case, there was no cerebral affection; there was not much difficulty in the throat. The patient died from irritation. According to her mother's account, "she wore herself out"; that is to say, she became exhausted by constant tossing and restlessness. The other patient, a boy of about four years old, recovered gradually under the use of quinine; and in none of these cases were there any sequelæ.

In another house in this village, on low ground, in which took place the fatal case of puerperal peritonitis described in the communication above alluded to, a house in which a tendency to erysipelas always exists, there occurred several cases, taking precisely the same form as those first described. The elder members of the family had attacks of erysipelas to a greater or less degree; the oldest of the children, aged about thirteen, had sore throat with a slight eruption, and recovered in a few days. After this, a boy of about five or six, was taken ill, had rather a dark-colored rash all over the body, and slight sore throat. He recovered after a few days, under the use of quinine, and began to go freely about the house. In the mean time, his sister, about two years older, was prostrated by the same disease. Her body was equally covered with a dark rash; she had slight sore throat and great prostration. She recovered very slowly, but was finally restored to good health.

Whilst she was confined to her bed, her brother was again seized with violent symptoms—vomiting, apparent pain which he could not describe or fix, and whose situation could not be ascertained by examination, swelling of the bowels and of the lower limbs. Despite of all remedies, he became worse, and had all the appearances of extreme agony—screaming, tossing in the bed, and never sleeping or lying still. He was perfectly rational, taking what was offered to him, and answering questions when spoken to. He died about forty-eight hours after this second attack, retaining his senses and a good deal of muscular power to the very last moment.

In ordinary cases of scarlet fever which prove fatal, there is extensive ulceration of the fauces, destroying life by affecting respiration; there is a determination to the head, producing delirium, with intense heat of the surface and full rapid pulse. In the fatal cases above described, the affection of the throat

was very slight, the pulse small and slow, and the brain unaffected.

About the last of November, the patient first mentioned, in this same house, was taken ill with vomiting, sore throat, and a scarlet rash covering the body. She was not very ill, and recovered under the use of the muriatic acid mixture and quinine. The second was next taken, and got through well. The third a girl of about four, had the disease more thoroughly, the rash very full, but the throat not very sore. The rash lasted about the time of the eruption in scarlet fever, and she began to recover without severe symptoms. In about ten days, however, she was again seized with vomiting, which continued without cessation. She continued to grow worse for twenty-four hours. I found her in a state of partial collapse, vomiting everything given her, the abdomen tense and full, and the lower limbs swollen. Her pupils were fixed inward. I now directed all other medicine to be stopped, and alternate doses of spirits of nitrous ether and wine given freely, with strong beef-tea. I left her, with little hope of finding her alive at my next visit.

Contrary to my expectation, I found her rather better. After commencing the wine, the vomiting had ceased, and the other symptoms were no worse. At my next visit, I found a slight improvement, and this went on for some time. The wine and beef-tea were continued, without medicine. Shortly after, she had another attack similar to the preceding. I now substituted brandy in place of the wine, and continued it for a week or two, after which I dropped it, and gave the wine of iron. Her recovery has been very slow, but progressive. She had, for the time, entirely lost the power of walking, and could not even bear her weight on her feet. When I last saw her, however, about the first of January, she was beginning gradually to walk with considerable help.

About the first of December, a boy of ten, was seized with the common symptoms of scarlet fever—vomiting, a rash over the whole body, sore throat, &c. He was not very ill, and recovered with little difficulty. After his recovery, his sister, about two years older, was seized with vomiting, slight sore throat, and catarrhal symptoms. A rash appeared upon the knees, which gradually extended over the whole surface of the body, attended with intolerable itching and stinging, and this rash, on minute examination, was found to consist of fine blisters.

After a day or two, small pustules appeared upon the foot and ankle, closely resembling the vaccine pustule, but with the apex circular, instead of oval. These were attended with intense irritation. The rash continued out over the body for four or five days, the pustules on the foot, in the mean time, slowly running together, and forming an abraded surface. The patient



slowly recovered, became well enough to play about the room, and even to go out; and I ceased my attendance. A few days after, I was called to her again, and found the other foot swollen and inflamed. The inflammation now extended over the whole body and face, assuming the usual form of erysipelas. She was not, however, compelled to take to her bed again, but was able to occupy herself in sewing, reading, &c. I now placed her upon a more stimulating course of diet, and gave her quinine and wine, with beef-steak once a day. I should have mentioned, that her appetite was capricious; she relished no other food but boiled cabbage, probably for the sake of the acid used with it, and very likely, also, because it was refused her at first. She recovered very slowly. In the mean time, her brother had a troublesome sore appear upon one heel; and the mother who took care of them both, had a regular pustule upon one finger.

A rather singular case occurred about the same time, in a different locality. A family of four young children had successively the usual symptoms of mild scarlet fever, commencing with vomiting, catarrhal symptoms, slight sore throat, and a rash covering the whole body. They scarcely required any medical attendance. After they had recovered, the father came to me one evening. He had, the day before, had slight catarrhal symptoms, but had continued his usual occupation through the day I saw him. In the afternoon, some nausea and very slight sore throat came on. A rash had appeared on one arm, attended with considerable irritation. I gave him a mild soporific, and advised him to keep his house the next day, and commenced the sulphate of quinine. I visited him the next morning, and found him completely covered, from head to foot, with a crimson rash. He said he felt quite well. He did not keep his bed at all, and was at work in a day or two.

In these cases it is exceedingly difficult to distinguish between erysipelas and scarlet fever. In fact, as far as the patients and their friends are concerned, it is useless to make the distinction. The friends pronounce the disease to be scarlet fever, "whatever the doctors may say" to the contrary.

When the disease is fully formed, there is indeed very little external difference, at least upon superficial examination. The history of the case affords one diagnostic. If it occurs in a locality where there has been no genuine case of scarlet fever, and the patient is not known to have been exposed to it—if any one of the family has had erysipelas or malignant pustule—if the rash first appears upon a limb, or the hand, the foot, in the eye, or ear, or on the face, there are strong indications of erysipelas. The sore throat, which occurs on or previous to the onset, hardly lasts more than twenty-four hours, while the rash is rather darker than in scarlet fever. Above all, the criterion of erysi-

pelas given us by Sydenham, a stinging like that of bees, is as good now as it was in his day. I believe, also, that on minute examination, the rash will generally be found to consist in a surface of minute blisters congregated together.

In severe cases, one or more of these blisters progress to the state of pustules. They either run together and form one ulcerated surface, or one takes the lead and becomes developed into the malignant pustule, while the rest dry up and disappear. The malignant pustule may be considered as erysipelas condensed in a single point. I may name one more distinction between scarlet fever, and the case I refer to. The former disease, as is well known, seldom occurs twice in the same individual; on the contrary, in the other disease, the person who had once had it is always more liable to it again.

Although the common locality of malignant pustule is the finger or hand, it not unfrequently takes place in the ear, and the suffering is then intense. In a former paper I have described the sensation, from my own experience, as resembling that which might be produced by a bee with a long sting extending from the pustule to the heart or stomach, while a fine iron wire heated to a *red* heat was boring by the side of this sting. In so sensitive a part as the ear, we may easily imagine how great the suffering must be. One treatment I have found successful in all the cases in this neighborhood. It is, to apply nitrate of silver daily upon and around the affected part—give a pill of antimony, opium, and submuriate at night, or one grain of blue pill, with half a grain of opium, for two or three nights, and a full dose of sulphate of quinine three times a day. A bread and milk poultice is also applied to the affected part.

Although these pustules generally appear after a wound, blister or abrasion of the skin, I have had ample evidence that they often arise without any such lesion, and undoubtedly from miasmatic influence upon the whole system. If erysipelas is produced by a poison in the blood, as modern authorities, I believe, allow, then malignant pustule is produced by the poison condensed in one minute point; while in diffuse inflammation, puerperal fever, &c., it may be supposed to act upon an aggregate of minute points; the poison being thrown out by the minute vessels upon a thousand minute points.

I find from Braithwaite, that Mr. P. H. Bird describes erysipelas "as merely an example on the skin, of that diffuse inflammation which in other tissues constitutes diffuse inflammation of the mucous membrane, diffuse phlebitis, puerperal fever—all of which have a common origin, a poison in the blood, are infectious and contagious, and may mutually produce each other." He thinks the term erysipelas should be confined to diffuse inflammation of the skin and subcutaneous cellular tissue. If so, then we want a more general term for all varieties of the disease

produced by erysipelatous poison, inhaled, or imbibed, or generated. Whether the term of irritative fever, employed by Dr. Butter, is suitable or not, I will not undertake to decide.

It has occurred to me of late, in observing the close resemblance between the cases described and scarlet fever, whether the former failures in the treatment of the latter disease, did not arise from its being treated by depletion and antiphlogistic regimen; whether the same treatment found beneficial in erysipelas would not be equally beneficial in scarlet fever?—nourishing diet, stimulants, and opiates. Is not scarlet fever caused by a poison in the blood, as well as erysipelas?

I find again from Braithwaite, that Mr. Meade, Senior Surgeon of the Bradford Infirmary, in a town where scarlatina has lately been frequent and fatal, describes the symptoms as in many cases bearing a close resemblance to erysipelas: and that he treated them in the same manner, with tonics and stimulants. After having employed ammonia, and the mineral acids with quinine, with success, he subsequently used the tincture of sesquichloride of iron; and this he has employed with great success in scarlet fever.

When I have employed the preparations of iron in erysipelas, I have found them less successful in this neighborhood than quinine. Many physicians, I know, place great confidence in iron. Different constitutions and different localities require, of course, different treatment. Whatever may be thought of the expediency of commencing at once a stimulating course in scarlet fever, I feel confident that a generous diet and stimulating treatment is required during convalescence; and I believe that thereby the formidable sequelæ may be avoided.

In the cases I have alluded to, whether they are called erysipelas, irritative fever, *aut quocunque alio nomine*, it is necessary to continue the quinine for some length of time. Otherwise, as soon as the quinine is abandoned the disease returns, unless the patient changes his residence.—[*Boston Med. and Surg. Journal.*

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#### ON AN IMPERFECTLY-KNOWN FUNCTION OF THE PANCREAS, VIZ: DIGESTION OF NITROGENOUS FOOD.

*General Propositions, forming the Summary of an Essay published with the above title and read before the Academy of Medicine of Paris; the first part in 1857, and the second in February, 1858.*  
By L. COVISART, M. D.

VERY little is known about the manner in which animal or nitrogenous food is digested in the *bowel*; and science has not advanced one step since the discovery of Purkinje and Pappenheim (1836) respecting the dissolving action which the pancreatic juice may exercise on such food—a discovery which has indeed remained almost unnoticed.



The pathological and experimental investigations on the *second digestion*, (intestinal digestion,) of which I have given an account, (in the before-mentioned essay,) have led to the following important results:—These are twofold: One group, of a physiological and direct character, are deduced from actual experiments. The other, of a pathological and indirect nature, are deductions or corollaries, which, as it seems to me, throw some light on clinical medicine.

### I.—*Physiological Propositions.*

1. Nitrogenous food is digested both by the stomach and the pancreas.

2. The pancreas is, as it were, a supplementary organ, whose action after copious meals, is added to that of the stomach.

3. Both digestions are of the same nature, as any article of food subjected to either is transformed into the self-same nutritive product (albuminose or peptone.)

4. The pancreatic juice has peculiar reactions under the influence of heat or certain agents, which reaction *the gastric juice does not present*. As this difference in the juices is found when they are both charged with peptones, after digestion, it has erroneously been supposed that the peptones also differed. This pardonable error, being pointed out, will hardly again be fallen into.

5. When an article of nitrogenous food, or a portion of it, has undergone a thorough gastric digestion, the pancreatic juice no longer acts upon it, and does not transform it into another peptone.

6. The pancreatic juice is intended to act upon that part of albuminoid substances which has left the stomach before being transformed into albuminose.

7. The amount of action of the pancreas may, in certain cases, be equal to that of the stomach.

8. If the mere quantity of secreted fluid were alone taken into account, the stomach might be looked upon as the more powerful, for the gastric juice is ten times more abundant than the pancreatic juice; but the latter is, to make up the difference, ten times richer in ferment (pancreatine.)

9. The gastric juice has the advantage of a prolonged contact and stirring with the food; but the pancreatic juice has, on the other hand, the faculty of acting upon azotized aliments equally well, either in an alkaline, neutral, or acid state; it also acts three times quicker than the gastric juice.

10. Everything is so disposed in the duodenum, that the pancreatic juice acts immediately it comes in contact with the food; and everything is so arranged in the stomach that a large part of the food is transformed into peptone, the remaining part

being, at the very least, so prepared, as rapidly to undergo the pancreatic digestion.

11. This preparation, which varies according to the quality and quantity either of the food or the gastric juice, &c., consists sometimes in a simple imbibition, sometimes in a dissevering or an extreme division, and sometimes in a solution. Pancreatic digestion, being forcibly very rapid, is usefully assisted by this preparation, the stomach acting respecting the pancreas in the same manner as the teeth do representing gastric digestion.

12. It is, however, to be noticed that the pancreatic juice is able to accomplish, unassisted, the digestion of food which has not been subjected to that gastric preparation or division; in the same way as the gastric juice can digest food without extraneous help. Hence, pieces of albuminoid substances, being *directly* placed into the intestine in a raw state—that is to say, without any preparation—are perfectly and completely digested, the process being, however, somewhat slow. The pancreatic juice can, by its own unassisted energy, carry on the digestion of nitrogenous food, without requiring the adjunction either of the intestinal juice or the bile, to gain digestive properties. The digestion of azotized food, performed in glass jars over the water bath, by means of the pancreatic juice or isolated pancreatine, goes on in the same manner as in the duodenum.

13. When the gastric and pancreatic juices are separated, and act in succession, each performs its function completely, and the quantity of albuminose produced may thus be doubled.

14. But it is a remarkable fact, that when these two digestive ferments meet in a state of purity, the two digestions are no longer freely carried on. The mixture, far from doubling the produce, may reduce it to nought, for pepsine and pancreatine destroy each other under these non-physiological circumstances.

15. Nature, in the normal state, prevents this conflict by three distinct means—1stly, by the pylorus, which separates the two ferments; 2ndly, by the very gastric digestion through which pepsine exhausts and abolishes itself in the formation of peptone; 3dly, by the bile which destroys the activity of the gastric ferment, as has been shown by Pappenheim.

16. Bile does not precipitate the peptone produced by the influence of the stomach so as to destroy digestion and necessitate its being again begun. On the contrary, the bile itself is precipitated by the acid of the gastric juice or of the chyme.

17. The nature of the nitrogenous food has much to do with the quantity of peptone which the two successive digestions can produce for the requirements of the economy. I have thus found in my experiments, that whilst masculine and casseine yield almost one ounce of perfect peptone, albumen, or gelatigenous textures, though given in the same quantity, yielded hardly half an ounce.

18. At the outset, gastric or pancreatic digestion destroys the most characteristic properties of the various albuminoid substances. It liquefies insoluble ones, deprives albumen of its coagulability, and caseine of its property of coagulating by rennet. It also deprives gelatine of its property of turning into jelly, and masculine of being precipitated by chloride of sodium, &c. In short, it transforms all the substances into albuminose and peptone.

The different kinds of albuminose, although their individual reaction are much less marked than those of the albuminoid substances whence they are derived, have, nevertheless, distinct characters.

19. The nature of peptones varies as the nitrogenous substances from which they are derived. This variety satisfies the different (plastic?) requirements of the economy.

20. The peptones which are most alike and most difficult to distinguish from each other, are, the albumen-peptone, masculine-peptone, and strange to say, gelatine-peptone; just as if the articles of food from which these peptones are derived were less different from each other than is generally supposed. Fibrine-peptone and caseine-peptone are more easily distinguished from each other, and from the substances above named. From the slight differences existing between azotized articles of food, or peptones, there arises a kind of unstable equilibrium, favorable to the work of assimilation performed by the tissues of the body.

21. The generic character of peptones is, that they are always soluble in water, be the latter acid, neutral, or alkaline, which circumstances secures an easy circulation in the organism. Heat, does not coagulate peptones, and hardly any of them are precipitated by acetate of lead. Besides, they resist insoluble metallic combinations a great deal better than nitrogenous articles of food.

22. Peptones form a genus, as well defined as the albuminoid genus. It is, however, evident, that by the progress of science their nature will eventually be more exactly determined than can be done at the present period.

23. Some physiologists persists in the erroneous belief that the stomach merely swells or divides the food without dissolving it. How can they, however, withstand the testimony of the scales, which plainly show that, even where the weight of the food is considerable, every albuminoid article of food subjected to the action of the stomach is not merely divided, but dissolved, passes through the filter, and is absorbed by the membranes!

24. Others have maintained that the gastric juice, acting on nitrogenous food, produces only gelatine. They, however, lose sight of the fact, that the characters which place gelatine in a peculiar albuminoid class, have never been discovered in the



chyme after a digestion of fibrine, caseine, musculine, or albumine, even when the chyme was neutralized; and that, moreover, gelatine itself completely loses its specific characters, in consequence of undergoing digestion in the gastric juice.

25. Others, finally, resting on the hypothesis, that the albumen of the blood is nothing but the digested matters themselves, maintain that the peptones are reduced to albumen, by losing their acidity—viz., by being neutralized. Such an error can hardly exist, except albumen and fibrine be alone taken into account, excluding all other aliments; as an incomplete digestion of the albumen and fibrine may lead to confusion. Crude albumen, in fact, always partly escapes gastric digestion; ill-digested fibrine is transformed into albumen only (caseiform); these two cases excepted, if experiments be made on the produce of concrete and washed albumen, of caseine, musculine, or gelatine, regularly digested by the stomach, no doubt can any longer be entertained. These gastric peptones never contain any albumen.

26. The peptones, either received or produced by the pancreatic juice, do not, any more than the latter, form any new albumen, and whether they be primarily or consecutively acid, alkaline, or neutral, do not increase by an appreciable weight the coagulable albumen which the pancreatic juice, pure and without peptone, *normally contains*.

27. During the three hours which follow a meal, (when digestive solution, transformation, and absorption are not much advanced,) the blood of the vena portæ (compared to the venous blood generally) does not become charged with a noticeable quantity of nitrogenous matter through digestive absorption; whilst on the other hand, the elements of the blood, globules and fibrine, become changed into albumen (caseiform) by a commencement of digestion, either in the intestine or the water-bath under the influences of the alkaline pancreatic juice.

28. Now, if it be considered that, during the first three hours of digestion—1stly, the pancreatic juice poured into the duodenum remains therein in a pure and active state; 2ndly, that this juice can pass into the vena portæ, (for absorption by the mesenteric veins is not suspended;) 3rdly, that this same juice can act in such an alkaline medium as the blood;—if, moreover, it be considered that during those very three hours, a large portion of the globules and fibrine of the blood of the vena portæ is, weights remaining equal, transformed in that vein into albumen, (which is a commencement of transformation similar to that which they would have undergone in the intestine under the influence of this same pancreatic juice,) we can hardly refuse our assent to the hypothesis *true intra-venous* digestion, which hypothesis I confidently put forward.

29. No actually differential character has ever been pointed

out between the nitrogenous matters which go by the name of extractive, and the albuminose which is generated by gastric or pancreatic digestion. Now, it should be noticed that the lacteals, *the vena portæ, and the hepatic veins, which are its continuation,* or, in other words, the vessels which most directly receive the product of digestion,—are by far richer in extractive matter (albuminose) than the rest of the blood. It may, moreover, be noted that they are also richer in glucose.

30. The nutritive richness of the hepatic vessels (albuminose and glucose being contained in them) may be explained by the gastro-intestinal absorption, to which is energetically added prolonged intra-venous digestion, although the liver has no share in the process.

## II.—*Corollaries, vel Pathological Deduction.*

A. We may take it as almost certain that there exists (as regards albuminoid aliments) a duodenal dyspepsia, caused by the vitiation, insufficiency, or absence of the pancreatic juice, the symptoms of which appear only from the second or third hour of digestion, with a deeper-seated pain than is felt in gastric dyspepsia. (See Propositions 1, 2, 3, 6, 7.) The internal use of pancreatine is indicated\* in cases of pancreatic duodenal dyspepsia.

B. Secondary duodenal dyspepsia may be the result of an almost total absence of that kind of division which food, under the least favorable circumstances, undergoes by means of the gastric juice before that food has been transformed into peptone. Pancreatic digestion is then slower, just as gastric digestion is slower, when the teeth have not duly performed their functions. This secondary pancreatic dyspepsia may be cured by the treatment suited to the primary gastric dyspepsia.

C. Another secondary duodenal dyspepsia may arise, either from an excess of gastric juice, or from a patency of the pylorus; for in these two individual cases the gastric juice reaches the duodenum in unfortunately retaining all its active properties, which latter are prejudicial to the action of the pancreatic juice. (See Propositions 13, 14, 15, and 16.)

D. A third duodenal dyspepsia may arise from deficient biliary secretion, this deficiency being followed by the same un-

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\* Last year Dr. Corvisart made some clinical experiments on the therapeutic use of pure pancreatine. The difficulties he met with are recorded in the *Gazette Hebdomadaire* of Paris, May, 1857, pp. 321, 322. Dr. G. Harley, who read a paper on Digestion (just twelve months after the above date) at the meeting of the British Association for the Advancement of Science, seems never to have heard of Dr. Corvisart's article on the subject. Dr. Harley maintains, in opposition to the latter physician's statements, that in the administration of duodenal ferment, it is not necessary to imitate nature, who prevents pancreatine from passing into the stomach. For the causes of the difficulties met with by Dr. Corvisart, and the means to overcome them, see Propositions 13, 14, and 15, paragraphs C and D of the summary, and page 51 of the Essay.

pleasant effects as are noticed in the two preceding cases, on account of the non-destruction of the activity of the gastric juice in the duodenum.

E. A peculiar kind of dyspepsia, which might be called of the portal vein, or hepatic, may arise from the vitiation of the intra-venous digestion.

F. Certain symptoms of dyspepsia, gastralgia, enteralgia, or hepatalgia, may erroneously be attributed to the stomach, the intestine, or the liver; these symptoms may simply be the result of the absorption of the two abundant, too active, or too irritating pancreatic juice by the vena portæ.

G. Bile, when it reaches the stomach, destroys the activity of the gastric juice within that organ, whether it penetrates the cavity pathologically through the pylorus or by the mouth and cardia. The knowledge of this fact may lead to the employment of bile to counteract the morbid superabundance of the gastric juice.

H. The economy is supplied with a variable weight of peptone, through the weight of different kinds of nitrogenous articles of food and digestive force remained the same, the weight of the peptones varying according to the kind of nitrogenous food. It is a great error in hygienics to esteem the trophic, or nourishing power of a nitrogenous article of food, simply by the amount of nitrogen it contains. The trophic, or alimentary standard of food is not so easily fixed.

I. When it is more urgent to allay pain and irritation about the digestive organs than to restore muscular energy, the food should consist of that kind of aliment which is most quickly and completely dissolved, whatever be the amount of peptone it yields.

J. But when it is more important rapidly to restore muscular force than to allay gastro-intestinal pain, we should, on the contrary, give such food which, the digestive force being the same, yields the greatest weight of peptone, though that food be likely to dissolve and digest slowly. (See Proposition 17.)

K. He who digests with one organ only, (stomach or pancreas,) is thereby put on half allowance as regards peptone; and he who eats only albumen or gelatinous tissue, (instead of caseine or musculine, which yield double as much peptone,) is also put upon half allowance; and with a normal and equal digestive force, is only half nourished. (See Proposition 17.)

In the two preceding cases, an over-activity either of the one organ (first case,) or of both organs (second case,) may occur, and extract from the food the full allowance of peptone. But we must not long trust this extreme functional exertion; for any persisting over-activity must sooner or later end in exhaustion.

L. We should not give for a long time one kind only of nitrogenous food, not only, because one kind of azotized aliment



is not capable of repairing the waste of the organism, but also because the same article of food given exclusively and continuously (for a week for instance) no longer excites gastric secretion, and no longer fully undergoes the digestive transformation.

M. Most of the peptones upon which I have made experiments, have the peculiarity of not being precipitated by neutral acetate of lead. Now, in all cases where the albuminoid matters of the urine happen to be of the albuminose kind, they remain in solution, in spite of the acetate of lead used to precipitate them. They therefore mask the sugar more effectually than all other ingredients of the urine when the potash and copper test is employed. The presence of sugar may thus be overlooked when it really exists in the urine.—[*London Lancet*.

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*Tonics and their Administration—a Clinical Lecture.* By Dr. GULL, Guy's Hospital.

GENTLEMEN: I wish to speak to-day, in form of clinical lecture, of a subject that—to use a common expression—has been weighing on the mind of myself and more than one of you for some weeks; it is what may be the nature of the “general debility” that has been so prevalent during August this summer, in almost all our patients in this hospital? I told you in the wards I should take the first opportunity I could, to enlarge on this point, and strive to explain its value or signification.

We have passed through a curious phasis of belief in the medical schools, that purging and bleeding were necessary to stop inflammation, and now we are fluctuating towards the opposite extreme, or all travelling on an opposite road. It is now thought that the chief diseases are due to debility, and inflammation must be stopped by stimulants. It was at the confluence of such logical cross-roads, Lord Bacon set up his crucial instances, or finger-posts, or crosses to direct inquiries. That case which occurred to us this week is a case in point. I said I thought it softening of the brain, to be treated by generous diet and stimulants; but it turns out, on the *post mortem* table, a case of sthenic inflammation. I told you at the time of the autopsy I should make some observations on stimulants and their value in cases of debility. I will make a few observations on this term “debility,” as I know it quite falls in with your wishes, as expressed in the wards. Does this debility really and positively exist, or is it a cloak for our ignorance? We hear it said every day, “What did he die of?” “Oh, general debility!” I believe the term is a lazy one; it is an indefinite term, it is a negative term, and so it is a dangerous term for us to use. Do

negative thing is one of the most difficult things possible to establish, or to argue about. I find diseases of the circulating system especially connected with what is called general debility; then again, I meet patients sent to me dying of this general debility,—but I find albumen in their urine; this directly weakens them. I find in another that he has decided urea in his blood; some change going on in his system, for which I advise change of air, and he gets well. A lady called on me yesterday, suffering from “general debility,” but I detected that she had been suffering from a “miasm;” in two other cases I found the general debility to arise from slow poisoning by lead. Dr. Addison was so struck by this asthenia, or debility, that he was led to examine all the organs very closely, and only then found the supra-renal capsule diseased—this disease probably interfering with the ganglionic nerves and function of healthy blood! You will not be long in practice, depend on it, when you will be consulted about general debility—the cause of which you must find out for yourselves, if you intend to remedy it. It may have its seat in local pleurisy or consolidated lung, and your patient becomes weaker on any extra exercise having been taken. The existence of such a disease leads to errors or circulation, or sanguification, with which, no doubt, you are all familiar. But in whatever mode the disease is caused, I wish especially to fix your attention on the fact that the disease will be presented to your notice as what the French call *malaise*, but patients term general debility. “Only cure them,” they will say, “of this general debility and sense of sinking, and they are sure they will get well.” This is why sea air is so useful in August and September.

What is strength or life? A child is comparatively weak, or not strong, as compared with an adult, but we do not call that debility; the tissues that exist may be in full activity, but the tissues, *quoad* function, are not yet fully developed. Old people, again, are weak, but here the tissues are debilitated, or becoming worn out. I do not think in adult people all the tissues are changed every seven years, as popularly believe to be the case. Now, I should ask, especially in adult patients, What is strength? and you at once see it is a very complex thing. When the patient advancing in years says he is suffering from general debility, you will probably find also some local disease re-acting on his organism. Our tissues represent to us curious and beautifully elaborate parts in a state of vital “tension.” A spring of a watch and its wheels are elaborate, but of no use till the spring be placed in a state of tension. Food (and vegetable food especially) supplies the something we call tension, but in the healthy capacity of each we find in the dead-house any disease that Dr. Wilks could term, pathologically, “general debility?” Certainly not! Now, a

patient to exhibit or sustain this tension consists in strength; in a word, the power of assimilating food through all its different stages. Now, we know that the impure, close air of cities, in August and September, is very unhealthy, whether from absence of oxygen, or from the vegetable world being in abeyance as regards its function of absorbing sewerage gases, we do not know; but the impure close air of London—in August and September—keeps the spring unbent; children especially do not take their food, and debility with them becomes very prevalent, with diarrhœa, etc.

I am often reminded (in practice) of an excellent observation also, by my friend Mr. Hilton; he says: "If limbs remain not used, they waste away—thus, by contracting the muscles; this very functional activity necessitates their nutrition." Now, amongst young ladies, in private practice, you will find the limbs and muscles remain not used; their tissues do not waste enough, and they may be actually debilitated or weak, because they appear so strong! Waste of tissue and nutrition, by some wonderful law, go together. Exercise in open air also get rid of *excreta* that lurk in the system and cause debility. Lying in bed is a very common cause of debility—a proper waste of tissues does not go on.

Patients often come to you also with some obscure but active inflammation in the chest—a common cold or influenza—and they invert the old rule, as they "feed a cold, but starve a fever." They are wretchedly debilitated, though, perhaps, taking beef steaks or porter. You prescribe for such cases a saline with antimony, and vegetable diet, and mild starvation for a few days, and they will grow strong, which they would in vain strive to do previously by taking food that was never assimilated. In the same way, you may have good nutrition, but too much exertion of muscle and waste of tissue, as in the very poor class of patients that come to hospital. Lying in bed is a cause of debility, as I have just said; hence, surgeons put on starch bandages in fractures, and send such poor patients into the air. If you find in a patient a very irritable nervous system, you will have also waste going on, waste even during sleep. Excessive exercise also waste the muscles, but proper or moderate exercise strengthens them. In London, one finds both extremes—one set of people all idle or sedentary, especially patients of the upper classes, or of the female sex; their general debility is cured by prescribing exercise. They tell a good story of Dr. Jephson, who used to cure his delicate lady patients at Leamington, by taking them out in a carriage,—but, suddenly, something happening which obliged the debilitated patient to walk back over a rough road, three or four miles. We have, then, patients also of the other extreme, who are "walking off their legs" by the toil of business. A few glasses of wine, or a little bark and am-



monia, does much good in such cases as tonics. You see at once, therefore, that it is a tedious process to find out if a patient owes his or her debility to waste of "tension," or diminished "tension," or whether you are to over-rest or to over-exercise. Sleep too, I may tell you (at least, healthy sleep,) very much depends on healthy waste of tissues and their normal reparation.

Now, about tonics. You naturally will say, what about quinine? Muller says, we know of no "direct tonics." I believe, also, there are no tonics but those which wind up the "tension" of our tissues. Whatever will do that has, for all practical purposes, been regarded as a tonic. Well, iron and quinine are the favorite tonics, but in some cases, wine is a direct tonic, or food. A gentleman recently came to me suffering under "general debility." I saw at once his liver was the diseased part. Some small doses acted, as I call it, as a direct tonic. In another case of debility, I detected "Bright's disease," with intense debility. Well! we "snuffed the candle." The flame thickening, and dull from excess of effort, tissue was changed by one or two doses of elaterium into the cheerful glow of comparative health; elaterium here I call a tonic. We took away what prevented the tension of the vital forces, and the elaterium produced a state of strenght; in short, acted as the very best sort of tonic. We may scientifically vary our medicine, but I call them all "tonics," as establishing the normal "tension" of the constitution adapted to health.

In the recent "blood-letting controversy," or discussion as to the nature of what is called inflammation, almost every thing turns on the meaning of the terms "debility," or asthmatic power, etc. Want of power, or debility, is even oftener seen in surgery than medicine—as exhibited in want of "tension" of the system to carry patients through a formidable operation, and the subsequent reparation of the injury. Surgical erysipelas, for instance, is a disease of debility, and wine one of the chief remedies. In the daily practice of medicine, I find wine to be our almost single direct tonic, and to act as a food, or, at all events, to economize food. I agree with the views of Dr. Todd on this subject. Ofcourse, wine is only adopted to some cases, such as wasting fevers, or surgical cases, for instance. Wine stops debilitating diseases like erysipelas, etc. Exercise may be a tonic. Iron may act as a tonic, or even minute doses of strychnine. But if you will apply the observations already made, you can not be at a loss to find why they are tonics, and the best kind of tonics.

I have done enough to-day, however, if I have indicated a certain line of thought for you to follow. I could have wished that I could offer you something more of the vast number of facts bearing on this subject, and leading to this doctrine of debility depending on want of vital tension in the animal tissues.

"It is not wings, but rather lead and weights," says Lord Bacon—"(*non pluma sed plumbum potius et pondera*)"—that the human understanding wants; something to restrain its tendency to leap and fly at once from particular facts to universal principles. You must not, therefore, from a few facts take these principles for granted till you have calmly worked them out for yourselves, in the practice of the wards of the hospital, if the subject is left with you in a fragmentary or imperfect shape—observed once of a lecture by Mr. Astan Key in this theatre—it is with the intention that you may go over it yourselves, and fill in the outline. One thing is, at least, quite certain—that the medical schools are passing out of the old doctrine of heroic blood-lettings and antiphlogistics; and the treatment by stimulants of this "general debility," of which I have spoken, has become a reigning fashion. Still, as I said already, the term "general debility" is a negative term, a lazy term, an indefinite term, except we examine it below the surface, and prescribe accordingly.—[*Medical Circular*, and *N. O. Med. Journal*.

*On the Artificial Production of Bone by means of Displacement and Transplantation of the Periosteum.* By M. L. OLLIER.

THE researches of Duhamel, and more recently those of Heine and M. Flourens, have demonstrated the importance of the periosteum for the reparation and reproduction of bone. Our own experience has led to similar results, and we have endeavored by experiment still further to demonstrate its truth.

We have dissected up portions of periosteum, and transplanted them in the midst of tissues normally foreign to ossification; and wherever we have engrafted them, new bone has been developed.

We have made three series of experiments. In the first series, we dissected long bands of periosteum from the tibia, (leaving one end adherent to the bone,) which were entwined in various ways around muscles of the leg. The result was the production of so many circular, spiral, and figure of 8 formations of bone.

In a second series we excised the adherent end or pedicle of the band of periosteum three or four days after the operation, and in spite of this interruption to the primitive circulation of blood, the transplanted periosteum continued to produce bone.

In a third series of experiments we completely detached the bands of periosteum from the bone at the time of the first operation, and immediately transplanted them in regions more or less removed—under the skin in the groin, on the back, etc.; and even under such circumstances ossific secretion was obtained, and true bony tissue was the result.

These experiments were made upon rabbits of different ages.

Advanced age diminishes but does not destroy this property of the periosteum. The osseous tissue thus obtained possesses the structure of true bone: the fundamental elements consist of bone corpuscles, in every way similar to normal bone. On the surface is a layer of compact substance studded over with Haversian canals. On the interior is found, at the end of a certain time, a medullary cavity, containing a reddish substance of similar anatomical characteristics, under the microscope, of normal marrow; and one or more foramina are seen to transmit blood-vessels.

This new bone is formed from the sub-periosteal blastema which is in part carried away attached to this membrane when it is dissected from the bone.

Our experiments demonstrate that bone will be obtained wherever one succeeds in engrafting the periosteum; they prove that a membrane may preserve its essential properties in spite of its removal and transplantation in the midst of foreign tissues; and, as a practical consequence, it extends the field of anaplasty.

[*Gazette Medicale de Paris*, and *Nashville Med. Record*.]

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### *A Suggestion to Life Insurance Companies.*

WE have long been of the opinion that it is the duty of those having charge of the business of life insurance to inquire somewhat into the character and standing of the medical attendants of those applying for risk on their lives. It needs no argument to prove that the lives of those who place themselves under the care of well educated and scientific physicians, are, humanly speaking, safer than those who employ ignorant empirics or unscrupulous mountebanks. This must necessarily be the case if medicine has conferred any benefit whatever on mankind, and there are few, we presume, stupid or prejudiced enough to deny but that it has.

Not only are these remarks true of the grosser forms of empiricism, but they apply equally to the more refined and popular systems of modern quackery; and it is to the latter that we more especially allude, as those who insure their lives are more apt to become the dupes of these than of the former.

Practitioners of Homœopathy are ordinarily ignorant of the very first principles of Medical science, and their treatment generally inefficient—absolutely so if they adhere to their system. So that a person in good health, who takes out a risk on his life, and subsequently becoming diseased places himself under Homœopathic treatment, necessarily cuts himself off from all the benefits to be derived from judicious medication, and in some instances may even suffer a loss of life for the want of timely and proper medical attendance. We submit it, therefore, whether



it would not be wise in life insurance companies to direct their inquiries into this matter, and require applicants to state whether they are in the habit of being attended by regular physicians, homœopaths or other irregular practitioners; and if one of the latter, it seems to us, that this fact should at least be taken into account in passing on the application. This would certainly be as pertinent and as pregnant an interrogatory as many that are now insisted on, and would put the company in possession of a fact which they have a right to know.—[*St Louis Med. and Surg. Journal.*]

## EDITORIAL AND MISCELLANEOUS.

### MEETING OF THE AMERICAN MEDICAL ASSOCIATION, AND THE CONVENTION OF THE COLLEGES.

Both the above important Conventions were held in Louisville, Ky., early in May last. We have space only for the Teachers Convention, in our present issue.

#### MEDICAL TEACHERS CONVENTION.

The Convention of the Colleges, assembled on the 2nd of May, in Mozart Hall, at 10 o'clock A. M. Twenty-two Colleges were represented, by the following gentlemen, Professors in the respective Institutions:

Dartmouth College, New Hampshire.—Professor Dixie Crosby.

Shelby Medical College, Tennessee.—Professors E. B. Haskins, and D. F. Wright.

Missouri Medical College.—Prof. J. N. McDowell.

St. Louis Medical College.—Prof. M. L. Linton.

Medical College of South Carolina.—Prof. Henry R. Frost.

Medical College of Georgia, at Augusta.—Prof. H. F. Campbell, Prof. Joseph Jones.

Medical Department, University of Michigan.—Prof. Moses Gunn.

University of Louisville.—Prof. L. P. Yandell, Prof. L. Powell.

Cincinnati College of Medicine.—Prof. A. H. Baker.

Medical Department of the University of Nashville.—Prof. J. B. Lindsley, Prof. W. K. Bowling, and Prof. P. F. Eve.

Jefferson Medical College.—Prof. R. Dunglison, and Prof. F. Bache.\*

Lind University, Chicago.—Prof. N. S. Davis,

Oglethorpe Medical College, Georgia.—Prof. A. G. Thomas.

Medical College of Ohio.—Prof. George C. Blackman.

Western Reserve Medical College, Cleveland, O.—Prof. G. C. C. Weber.

\* Delegates not present.

Kentucky School of Medicine.—Prof. M. Goldsmith, Prof. G. W. Bayless.

Iowa University.—Prof. McGugin.

Medical College of Memphis, Tenn.—Prof. H. R. Robards.

Medical College of Richmond, Va.—Prof. B. R. Welford, Prof. L. L. Joynes.

Atlanta Medical College, Ga.—Prof. J. G. Westmoreland, Prof. John W. Jones.

Medical Faculty of Harvard University, Boston, Mass.—Prof. Geo. C. Shattuck.

Rush Medical College, Chicago, Ill.—Prof. Daniel Brainard, Prof. Joseph W. Freer.

The Convention was permanently organised by the election of Professor Dixie Crosby, President, and Prof George C. Blackman, Secretary.

By a resolution offered by Prof. D. F. Wright of Nashville, it was decided in accordance with the resolution of the meeting held last year at Washington calling the present meeting, that the members of the several Colleges represented might participate in the debates, but that the Colleges should have but one vote each, in deciding questions.

Dr. N. S. Davis then offered the following, which was adopted :

*Resolved*, That a business committee of five be appointed by the chair to report propositions for the action of the convention.

The chair appointed Drs. N. S. Davis, Gunn, Frost, Shattuck, and Yandell. After a short recess to enable this committee to report, they submitted the following through Dr. Davis, the chairman :

1. *Resolved*, That this convention recognises the great advantages to be derived from the action of the American Medical Association in prescribing the terms and conditions on which medical degrees should be conferred and licenses to practice medicine shall be granted ; and that an expression of opinion as to methods or periods of instruction from the American Medical Association should be received with deference and respect, and that all pains should be taken to enforce any rules and regulations recommended by that body.

2. *Resolved*, That this convention earnestly recommend the American Medical Association to adopt such measures as will secure the efficient practical enforcement of the standard of preliminary education adopted at its organization in May, 1847 ; and that the Medical Colleges will cheerfully receive and record the certificates alluded to in said standard whenever the profession generally and the preceptors will see that students are properly supplied with them.

3. That no Medical College should allow any term of practice to be a substitute for one course of lectures in the requisitions for graduation.

4. *Resolved*, That Hospital Clinical Instruction constitutes a necessary part of medical education ; and that every candidate for the degree of Doctor of Medicine should be required to have attended such instruction regularly for a period of not less than five months during the last year of his period of medical pupillage.

5. *Resolved*, That every Medical College should rigidly enforce the rule requiring three full years of medical study before graduation, and that the diploma of no Medical College shall be recognized which is known to violate this rule.

Prof. Wright, of Nashville, moved that the resolutions of the report be considered *seriatim*, and the first being taken up he spoke at length in opposition to it, giving a history of the previous difficulties between the American Medical Association and the Medical Colleges. He could neither vote for such a resolution nor could he take any future part in the proceedings of the convention which should adopt it.

Prof. Brainard, of Chicago, thought this convention was asked to take a step fraught with peril to the harmony of the profession and its best interests; it should be met on the threshold and a solemn protest entered against it. The body did not represent the Medical Colleges of the country with unanimity; New York, Philadelphia, and New Orleans are not represented here, and he must consider their absence as a protest against the assumption of any power on the part of this body or the American Medical Association to dictate the terms on which the Colleges should confer their degrees or receive their students.

The admission of such a resolution would produce hostile factions both in the profession and in the Colleges and could never receive the sanction of those who had independent, chartered rights to fall back upon. He was opposed to no true improvement in the medical profession, but he did object to shutting that door upon young men desirous of entering the profession, through which we ourselves all had entered.

Without definite action on the resolution, the convention adjourned until 3 o'clock P. M.

#### AFTERNOON SESSION.

When the convention reassembled, Dr. Bayless offered the following amendments to the first resolution:

1. To substitute in the third line the word "recommending" for "prescribing."

2. To strike out all after the words "deference and respect."

A long discussion ensued on the resolution, which was participated in by Doctors Bayless, Yandell, Palmer, McDowell, Davis, Brainard, Shattuck, Baker and Wright.

Prof. L. L. Joynes, of the Medical College of Richmond, Va., then offered the following preamble and resolutions as a substitute for the resolutions from the Business Committee:

WHEREAS, It appears that a large proportion of the Medical Colleges of the United States are unrepresented in this Convention, and no changes in the present system of education can be effectual unless adopted by the schools generally—



*Resolved*, That it is inexpedient at this time to take any action upon the proposition contained in the report presented by the Special Committee on Medical Education, at the last meeting of the American Medical Association.

*Resolved*, That with the view of obtaining a more general union in counsel and in action, upon this important subject, the Convention do now adjourn to meet again on the day preceding the next annual meeting of the American Medical Association, at the place which may be agreed upon for said meeting, and that the several Medical Colleges in the United States requested to appoint each one delegate to such adjourned meeting of this Convention.

These resolutions were amended, at the suggestion of Dr. Wright, to include the appointment of a committee of five to take into consideration, during the recess, the various matters referred to in the resolutions, and to report thereon at the adjourned meeting.

The vote was demanded on this, by Colleges, and resulted as follows :

Yeas—Shelby Medical College, Missouri Medical College, St. Louis Medical College, Oglethorpe Medical College, Ohio Medical College, Western Reserve Medical College, Kentucky School of Medicine, Medical College, Richmond, Atlanta Medical College, Rush Medical College—10.

Nays—Medical College, S. C., Medical College, Ga., Medical Department University Mich., University of Louisville, Cincinnati College of Medicine, Lind University, Iowa University, Medical College, Memphis, Harvard University—9.

The substitute was declared adopted, yeas 10, nays 9, and so the Convention stood adjourned until the day preceding the next annual meeting of the American Medical Association.

The chairmam appointed the following committee under the above resolutions : Drs. L. P. Yandell, Geo. B. Shattuck, G. C. Blackman, H. F. Campbell, and Moses Gunn.

Thus has ended the first meeting of the Colleges for the purpose of establishing a proper system of Medical Education, and of arranging such matters of general interest as the Colleges *themselves*, alone can finally settle. It will doubtless be remarked that very little has been done at this meeting, but our own opinion differs widely from the assertion. True, nothing final has been determined upon—no striking change has been made and no specific abuse corrected : nor should anything of this kind have been expected, for none of them could have been effected at this first single meeting, without, in the general movement, doing violence to some one of the special interests represented. The colleges of this country, at least in these conventions, must be regarded as a commonwealth, in which the peculiar interests of each, are to be considered, and, as far as consistent with the general good, protected. Changes in the private economy of colleges can only be effected after

deliberate action, and when they so nearly affect the interests of the several schools, much hesitation is to be expected before they are entered into. Not only one, but probably several meetings of this convention may hereafter be required to correct even a single abuse.

We consider the meeting just held to have accomplished a great deal, simply by their organization as one of the established associations of our profession in this country. Hereafter this junto of Medical Professors is to become one of the important permanent appurtenances of the American Medical Association—its companion and counsellor in all matters especially, which refer to Didactic Medicine, or the Educational interests of the Profession.

Changes and improvements of the most important character must, in time be effected, and doubtless there will finally grow out of the deliberations of this American body, a model system of medical education, by which those of older countries, confessedly so imperfect at present, may be modified and improved.

If we understand their duties aright, the Committee which has been appointed by the President of this meeting, will correspond with the various colleges, in order to ascertain the views of each and to secure unanimity of action at the next meeting of the Convention—on some one or two points of improvement in medical education. This committee will report, through their chairman, Dr. L. P. Yandell, at the next meeting, which will be in New Haven, the day previous to the meeting of the American Medical Association—and their report will be the definite basis of action for the Convention.

In time, it is to be hoped that the vexed question of medical education will be settled, and then the wisdom of Dr. James R. Wood's report, calling this first Convention of Medical Professors, will be apparent to all, as its benefits will be enjoyed by all.

#### "THE NIGHTS VS. THE DAYS."

We cannot close the account of this meeting without expressing our grateful appreciation of the brotherly kindness, warm hearted welcome, and hospitable entertainment of us all, by the Profession, and the Citizens of Louisville.

The *days* of our sojourn, it is true, were spent in the legitimate and, sometimes, tedious business of the Association, but festivity and geniality and abundant hospitality crowned the *nights* with a "Feast of reason and a flow of soul,"—not alone those of our generous and warm-hearted brethren, but the houses of many distinguished non-professional citizens opened their doors, and, night after night, until the gray dawn of morning, the "sound of revelry was heard;" and as face answered to face and soul to soul in the joyous gleaming of kindred spirits, few would suspect

that, scenes of want and woe, sickness and sorrow, death and desolation had so often moved those hearts in painful sympathy or darkened those countenances in despair for "ills they could not cure." But "there is a time for sorrow and a time to rejoice," and this evidently was the season of rejoicing, and truly did all rejoice—Long life to Louisville and her Physicians and hospitable citizens,—Long live the American Medical Association; and long live too, its attendant socialities and festivities. May its *days* of wise counsel, and serious deliberation be many, but *long and many too, may its nights be*—nights of harmless enjoyment, of keen social pleasure, of cordial intermingling of soul, with kindred soul, and spirit, with kindred spirit. Give us still these nights—these youth-renewing nights;

"Hang the almanac's cheat, and the catalogue's spite!

Old Time is a liar! we're twenty to-night!

We're twenty!—we're twenty! Who says we are more?

He's tipsy—young jack-a-napes! show him the door!

"Gray temples at twenty?" Yes—*white* if we please;

Where the snow-flakes fall thickest there's nothing can freeze!"

O. W. HOLMES.—"*The Boys.*"

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AMERICAN MEDICAL ASSOCIATION.—The Proceedings of this Association are now in type, but our space will not admit of their appearing until our July number.

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#### THE NEW YORK ACADEMY OF MEDICINE—THE WHITNEY CASE.

With the above heading, doubtless some of our readers have been long familiar, as but few of our exchanges have failed to express an opinion on the subject. Having received many inquiries in relation to the matter, we shall now present a brief summary with some of our own impressions in regard to the history of the case, as they have been gathered from the careful perusal of a lengthy, accurate and very fair record to be found in the February number of the *American Medical Monthly*, published at the very scene of the occurrences.

It appears that Mr. STEPHEN S. WHITNEY, the son of a wealthy citizen of New York, had for some time been affected with serious pulmonary disease. He, at first was under the treatment of other physicians, but for about two months previous to his death, was under the occasional professional care of Dr. HORACE GREEN. His visits to Dr. Green's office were, it appears, very irregular. Dr. Green's diagnosis divulged; an eroded condition of the epiglottis with tubercular deposits in the lungs, particularly near the apex of the *left lung* just under the clavicle, "where a distinct *humid rale or click* was heard" which, with the accompanying symptoms presented in the case, was considered by Dr. Green, whose



experience is very extensive, as "positively indicative of tubercular softening."

October 25th.—Enlarged and ulcerated tonsils were removed. The pharynx, the subtonsillary fossæ and border of eroded epiglottis were cauterized and the patient put upon an alterative mixture containing iodide of potassium and proto-iodide of mercury, which was continued during the three following weeks.

Occasional applications of a moderately strong solution of nitrate of silver were made to the epiglottis and glottis, and on the 6th of December, *one drachm of a solution of nitrate of silver, 15 grains to the ounce of water*, was injected by "tubage" into the left bronchus. No irritation whatever followed the operation. The patient at his next call, on the 9th of December, expressed himself much pleased with the good effects of the injection. No application was again made until the 14th December, when, in the presence of a professional friend, Dr. M. E. Foy, who visited the office to study Dr. Green's method, the throat was again examined.

Dr. Green had intended to apply tubage on this day, the 14th, but on account of the non-preparation of the patient, he used only the same weak solution of nitrate of silver on the ordinary sponge probang applied by him, as he had done eight or nine times previously. It must be remembered that "*this instrument was employed, but that the tube was not used on that day on Mr. Whitney.*" "Tubage was never used but once, in his case, and that, some eight days before the last operation. The same probang, the identical instrument which on some ten different occasions had been passed into the glottis and larynx of the patient, was employed and in precisely the same way, except that when the sponge reached the glottis, (a thing occurring every day with nervous or sensitive persons and, which every operator knows, without the occurrence of any harm to the patient,) by which the progress of the instrument was suddenly arrested, *so that it did not enter the windpipe at all.*" The instrument was at once removed, no more force having been used than that which is constantly employed every day in operations upon the air-passages. After talking a while with Dr. Foy and Dr. Green, and remarking that "the operation hurt him more than usual, or that he felt it more than usual," "the patient left with the arrangement, that he, should return next day and have the tube employed." Dr. M. E. Foy, who was present during this entire interview, remembers vividly, every step in Dr. Green's procedure, and testifies fully to the accuracy of his statement.

This was Dr. Green's last interview with the patient. He goes home, and in a short time, the pain increases, difficulty of deglutition and res-

piration supervene and subsequently, considerable emphysema. The patient dating the beginning of his suffering from the moment of Dr. Green's operation, naturally regarded that as the *cause*, and refused to see him again. Other physicians are called in, who *do not succeed* in quelling the excitement naturally arising from this impression of the patient and, long before his death, which occurred about eight days after the sponge application, and fifteen days after the tubage, the most exaggerated reports had reached to all, and to the most parts of the country *through the newspapers*, that "the death of a prominent citizen of New York, had been caused by a perforation of the larynx with an instrument in the hands of Dr. Green while performing the operation of tubage." The death of the patient being so long deferred, viz., to December 21st, doubtless served to intensify the excitement and added to the condemnation which, in the minds of some, justly fell upon Dr. Green.

On *post mortem* examination, at which Dr. Green was not present, the glottis, epiglottis, larynx and trachea are declared "perfectly healthy and without an abrasion." But an abscess "about the size of a large hen's egg and extending a little in front of the pharynx and downward and below the thyroid cartilage," was now discovered. At the upper and posterior part of this abscess, there was an opening into the pharynx large enough to admit the end of the fore-finger. The upper part of the left lung was mostly, in a state of hepatization and an open cavity was found here, the size of a walnut, *with a small opening through both pleurae*, "at its upper and anterior part.

With these developments, it requires no amplification of reasoning to account for all the symptoms and the death of the patient—the unusual pain on the last application with the soft sponge, the obstruction on deglutition and in respiration—the emphysema—indeed for every thing, without in any way referring them to any of Dr. Green's procedures. With the lights before us, there never was a plainer case.

This is, as far as we can gather, a fair summary of the entire medical history of the case. We have neither time, space, nor inclination to give even a summary of the painful discussion which has grown out of it. Suffice it to say, that the medical profession of New York, with a kind regard for the feelings of Dr. Green, and, being unwilling that such an imputation should rest upon him, urged the most thorough investigation of the entire facts connected with the case. The course pursued by the New York Academy of Medicine, is highly commendable; during nearly three entire sessions, the case underwent the most patient and diligent investigation—was thoroughly sifted in all its minutiae.

At the end of this investigation, a unanimous resolution was passed to the effect that, Mr. Whitney's death "was in no wise, the conse-

quence of improper treatment, but was the unavoidable result of a complication of diseases."

"Flat contradiction can you bear,  
When you are right and know you are,  
Nor flatly contradict again,  
But wait and modestly explain,  
And tell your reasons, one by one,  
Nor think of triumph, when you're done!"

No one can peruse the account of this investigation before the Academy, without being impressed with the highest respect and some admiration for, the calm dignity, the unmoved gentlemanly propriety and considerate forbearance which marked Dr. Green's bearing toward his fellows, even during the most exciting phases of the discussion. This man, whose labors, during more than twenty years, in a most important field of medicine, had accomplished so much—to whose genius, Science and Humanity owe so large a debt—whose results, could they be estimated, would doubtless show that, he alone, has been instrumental in appreciably extending, even the general average of human life, by establishing a new and valuable treatment for diseases of the respiratory organs—whose name is familiar, not only in every portion of his own country, but is called with respect and honor by the learned of foreign lands, and whose industry has done much to gain for American Medicine, the consideration and respect it now enjoys in European countries, finds himself assailed *at home*, and, in the very community which had witnessed all his toil and shared the honor of his world-wide fame, he is arraigned in the daily newspapers as an unskillful operator and a dangerous specialist! It would appear that, "Ingratitude more strong than traitors' arms, must quite vanquish him!"—Not so—being called upon, he calmly and courteously relates his case before the proper tribunal—he listens in quiet patience to the close inquisition made into his system and his method—in his defence, he withholds certain revelations because they might wound the feelings of the surviving friends of the patient, (inimical, as they are all, to him) though they would satisfactorily explain certain measures of his treatment, then being severely criticized—and, in the adjustment of the final resolution, fully acquitting him, he nobly asks, that it may be so worded that *blame should fall upon himself, rather than upon a venerable and distinguished professional brother who had been engaged in the case, after it had passed out of his hands.*

All this proclaims true greatness of Soul, and vindicates the well-desert of that brilliant success, which has crowned his life-long career.

AMERICAN MEDICAL ASSOCIATION ABROAD.—That our National Medical Association has influence at home and exercises a wholesome control



over the wide-spread bounds of the American Confederacy, no rational mind will, at the present epoch, for a moment pretend to deny. But how grateful is it to every true friend of American Medicine, to find the best Journals of the mother country endorsing us in terms of commendation, and drawing a most favorable comparison between our National Medical Congress and their own British Association—whose long established reputation and world-wide influence are acknowledged throughout the entire globe. While we select the following from our valued exchange—the Cincinnati Lancet and Observer—we heartily commend the London Times and Gazette for its liberality and justice:

“The *London Medical Times and Gazette*, in a notice of the Transactions of the American Medical Association, Vol. XI., 1858, speaks in the highest terms of it, and the Association. It accords to it a position for influence and scientific investigation far ahead of the British Association. It says, “Each member of the American Association pays twelve shillings a year as his subscription. The subscription to the ‘British’ is a guinea. The one Association offers prizes, makes grants for the expenses of original enquiries, appoints working committees to investigate important questions, and supplies its members with the results of all this work in an annual volume of Transactions, which is a real acquisition to any medical library. The Association has published carefully prepared reports of the various epidemics and diseases which have prevailed during the past ten years, and of the vital statistics of the principal cities; illustrating them by charts, maps, diagrams, tables and plates.” Speaking of the British Association, it says, “It has done nothing to check irregular practice, or promulgate a code of ethics. It is a mere joint stock company, vainly attempting to compete with this, and the other weekly medical journals of the metropolis. Its sole vitality is in annual social gatherings. Let them be kept up; but in all other respects, if the Association is to become a useful, influential and respected body, let it return to its original constitution, encourage experimental investigations, promote medical science, assume some authority in the sanitary affairs of the nation, put away discreditable trading competition, and outshine, instead of being spurned, by its younger and more vigorous brother of the West.”

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#### DEATH OF SIDNEY S. BROWNE.

“The fire beneath his crucible is out;  
The vessels of his mystic art lay round,  
Useless and cold as the ambitious hand,  
That fashioned them”—WILLIS. “*Dying Alchemist*.”

Though not a member of our profession, Mr. Browne had such a relation to the publication of this Journal, that, we feel it proper that some record of his usefulness, his quiet unobtrusive worth should find a place upon its pages. For several years he has occupied the humble, but the highly important position of Job Printer in our office; and daily and hourly are we reminded of him by the melancholy vacancy, not yet

filled, caused by his sudden death. The click of his ever busy Treadle-press, is no longer heard—it stands, a cold and silent monument of the skillful hand which so lately worked it. Mr. Browne was a native of Charleston, S. C., and has been working in our office for the last three years. He leaves a large family who were mainly dependent upon his efforts—long shall we miss his kind benevolent face in the scene of our editorial toils. He has ceased from his labors—long and weary have they been—but now “the weary is at rest.”

The following from the *Savannah News* will show our readers the kind of man we have lost;—this period of his life is a good sample of the whole :

“The deceased was foreman of the News office in 1854, and during the epidemic of that year remained at his post, a portion of the time with only a single assistant—a faithful little apprentice boy, still in the office—with whose aid he continued the publication of the paper, never missing a single issue. During the prevalence of the fever, every one connected with the establishment, with the exception of the deceased and the apprentice boy alluded to, were attacked, and five out of the number died. Mr. Browne was one of the best and most expert job printers we ever knew; as a man he was industrious, amiable, generous, and reliable. He had no enemies, and leaves many friends, to whom the announcement of his death will be sad intelligence.”

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*The New Sydenham Society.*—MESSRS. EDITORS,—I noticed, in your Journal of the 24th ult., an article respecting the “New” Sydenham Society. Since this notice, I have received a communication from the Secretary, Mr. Hutchinson, explaining somewhat the objects and scope of the “New” Society. The prospectus, which I have not yet received, though sent about the same time as this letter, will explain all matters fully. Mr. Hutchinson says, in his letter, “We have already 1700 members, and are steadily increasing. The books will be uniform in size (8vo.) type, &c., and the intention is to keep close to those of a practical class. \* \* \* The number of books issued each year will depend upon the number of members. If we can gain another 300 this year, I have little doubt but that we can afford the whole of the six volumes mentioned for one subscription; at any rate, five would be certain.”

The following notice was issued by the Council, Feb. 1st, 1859.—[*Boston Med. and Surg. Journal.*

“THE NEW SYDENHAM SOCIETY.—The present Volume—Diday on Infantile Syphilis—is the first published by the New Sydenham Society.

“The following works are in the hands of the printer:—

“Vol. II.—Gooch on some of the more important Diseases of Women and Children, and other papers. With Prefatory Essay by Dr. Robert Ferguson. Wood cuts. To be ready in March,

“Vol. III.—Selected Memoirs on Diphtheria (Bretonneau, Trousseau, Guersent, Buchut, Daviot, and others.) With a Bibliographical Appendix. Nearly ready.

“Vol. IV.—Schröder Van der Kolk, on the Anatomy and Physiology of the Spinal Cord. With Plates.

"Schröder Van der Kolk, on the Medulla Oblongata, and on the Proximate Cause and Rational Treatment of Epilepsy. With plates. These two volumes will be bound in one.

"Vol. V.—Clinical Memoirs on Abdominal Tumors and Intumescence. By Dr. Bright. Collected and reprinted from the Guy's Hospital Reports. Edited by Dr. Barlow. With Plates and Wood cuts.

"Vol. VI.—A Volume of Translated Modern Essays (chiefly German) on different medical subjects. Wood cuts.

"The Council begs to announce to the members, that the first twelve months having been taken up in the organization of the Society, and the preparation of the first year's series of books, it has determined that 1858-9 shall count as one year. The series of books, now commenced, will, therefore, be issued for 1859, and no second subscriptions will be due until January, 1860.

"The Council confidently trusts that Vols. II., III. and IV. will be in the hands of the members early during the present year.

"Whether the other volumes (V. and VI.) may be also issued as part of the first year's series, must depend upon the number of new members obtained.

"A small number of extra copies of the work will be printed for the supply of those who may join the Society during the current year."

Those desirous of becoming members, are requested to send their names directly to me, the Local Secretary for this section of the country. It is a labor *con amore*, and shall be so executed.

No 1, Stanford-street.

R. H. SALTER.

*M. Falcony's Powder for Preserving Dead Bodies.*—The result of a very successful trial of M. Falcony's mode of preserving dead bodies was seen at the Grosvenor-place School on Tuesday. A body was brought to the school on the 24th of September, in a state of decomposition, so advanced, as to be quite unfit for dissection. It was covered with M. Falcony's powder, and left in an open coffin until Tuesday last, when it was inspected in the presence of a number of scientific and literary men. There had not been the least offensive odor in the room in which the coffin was kept, and the body on Tuesday was quite free from odor. The powder used contains a large proportion of dried sulphate of zinc; this is mixed with common sawdust of white pine, before covering the body. The rationale of the process is easily understood. The sawdust keeps the oxygen of the atmosphere from access to the body, and the emanations from the body are oxydized in the sawdust by the atmospheric oxygen. Hence there is no escape of the fetid gases. Then internal decomposition is prevented by the sulphate of zinc absorbing the water of the body, deliquescing, and recrystolizing as hydrate, probably with seven equivalents of water of crystalization. Whether this explanation be correct or not, there can be no doubt whatever that the process is a cheap, safe, and effectual one, perfectly fulfilling its intended object; and we feel sure that the adoption of such a process with all our dead, would tend to protect the living from cadaveric poisoning of the air we breathe and the water we drink.—[*North Am. Medico-Chirurgical Review.*]

*Facile Mode of Cupping.* By D. STEWART, M. D.—A correspondent in the *Lancet* makes an excellent suggestion for the manufacture of cheap cupping-glasses of common green glass, such as may be readily and not grudgingly used by any one when leeches are not to be had.

Let me offer a suggestion for a safe and easy mode of exhausting them, free from all the trouble of pumps and the danger of spirits and ethers, and which will answer equally well with a wine or liqueur glass as the best ground cupping-glass.



Wipe the glass you select for use quite dry, drop into the bottom of it one drop of melting wax from the candle in your hand: on this lay the smallest imaginable dossil of gun cotton, a morsel not larger than a grain of rice will be enough. The softness of the wax will suffice to keep this *in situ* if but one fibre is entangled. Then set fire to it with a bit of lighted paper, holding the mouth of the glass up, and its edge close to the part of the body on which you mean to apply it. At the instant of the puffy explosion, invert the glass on the part. The vacuum formed is perfect, and the action immediate. You have no ugly scalds from half extinguished ether, no flames from its droppings on the patient's dress, etc. The cotton may be carried about quite safely in the head of your lancet-case; and instead of the deep ugly gashes of a scarificating machine, a few light superficial cuts rapidly made with the shoulder of a lancet over the part will give less pain, less fright, and more blood.—[*N. O. Medical News and Hospital Gazette*.]

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*New Application of the Stereoscope*.—The Boston Journal says: "Mr. John P. Soule of this city has recently been engaged in taking a series of photographs from dissections of the human subject, designed for use in the stereoscope. He has already prepared a dozen or more of these pictures, which exhibit as many different dissections of the muscles, and it is his intention to continue the series, and to prepare views of the arteries, &c. The pictures are very beautiful, and should the artist succeed in coloring them satisfactorily, their value will be greatly enhanced."

[*St. Louis Med. and Surg. Journal*.]

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*Epistaxis*.—Dr. Buchanan has communicated to the Nashville Med. Society a case of violent bleeding from the nose, in which, after having had recourse to all the ordinary methods for arresting the hemorrhage without avail, he at length succeeded by compressing the carotid. He put his finger and thumb on the carotid artery of the right side and compressed it against the cervical vertebræ. This stopped the bleeding almost in an instant. Twenty-five hours after it recommenced, but was again immediately checked by the same method, and did not subsequently recur.—[*Nashville Med. Journal*.]

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*Asthma*.—Prof. Flint reported a case of asthma, which was produced by emanations from a feather bed. It was a child five years of age, who had always suffered from asthmatic breathing. The father and mother were both subject to it in some degree: they had always been accustomed to sleep on feather beds, and on making a change in this respect, according to the suggestion of Prof. Flint, there was no return of the difficulty.

Dr. Miner mentioned a similar case; the patient, in addition, could never breathe where there was any new-mown hay; the odor from a horse was sufficient to bring on the difficulty. He had a son who suffered from the same idiosyncrasy.—[*Buffalo Med. Jour.*]

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*Treatment of Ascarides*. By NATHANIEL SMITH, of Bradford county, Pennsylvania.—I noticed, a few weeks ago, a call for a cure for ascarides, or pin worms. In an extensive practice of more than forty years, I have

never known assafoetida and aloes to fail of an immediate cure. I have usually given the medicine in tincture, and in some cases have thought best to clear the bowels of mucus and other matter, by a dose of calomel and rhubarb, or some other pretty smart physic. I have treated very many patients, of all ages, from infancy to old age, and never failed of an immediate cure. I know not whether I have ever seen these medicines recommended in books. I took them from Dr. Mussey's Lectures at Dartmouth College, perhaps forty-four years ago.—[*Boston Med. and Surg. Journal*.]

*Constipation*.—Dr. Black attributes many cases of habitual constipation, especially among infants, impregnated and nursing females, to an undue absorption of intestinal fluids, rendering both the mucous follicles of the intestines dry, and the fœces hard, dry and scanty. In one case of a child six month old, he adopted the following treatment:

R.—Ext. Sarsa. ʒiss; Aq. Ferrent. ʒi; Hydrarg. Bichlor. gr. ij; Syr. Simp. ʒi.—M.

Of this a teaspoonful was to be given three times a day. In a week or two the dose had to be diminished to one-half, finally to one-third, and in six weeks discontinued entirely as the discharges were rather too frequent!! He adopts and recommends the same treatment in pregnant women and other similar cases, and although he had used this mixture extensively for three years, he has never had reason to fear pytalism.

[*Cincinnati Lancet*.]

*Sir Benjamin Brodie*.—We extract the following from the London Medical Times and Gazette for December last: "Honors are falling thick on Sir Benjamin Brodie. Last week elected President of the Medical Council, this week President of the Royal Society, he stands in a higher position than any surgeon has ever attained before in this country."

[*Nashville Monthly Record*.]

*A Medical College in California*.—From a circular which we have received, we perceive that a Medical School is about to be started in California, to be known as the Medical Department of the University of the Pacific. The regular course of lectures will commence on the first of May next, and will continue for eighteen weeks. There are six professorships, and we are glad to see that Dr. E. S. Cooper, formerly of Peoria, Illinois, is to occupy the chair of Anatomy and Surgery, for which he is certainly well qualified.—[*St. Louis Med. and Surg. Jour*.]

Ludovic Hirschfeld, the author of the beautifully illustrated work on the Nervous System, and formerly *chef de clinique* at Hôtel Dieu, Paris, has been nominated Professor of Anatomy at the Medico-Chirurgical Academy of Warsaw.—[*Cincinnati Lancet and Observer*.]

"There is a great difference between a pathologist and a physician. The pathologist studies disease for the disease itself; the physician studies disease for the victim of the disease. One exercises his art for the sake of art—the other exercises it for the purpose of soothing the sufferings of humanity."—[*L'Union Med. Cincinnati Lancet & Observer*.]

# SOUTHERN MEDICAL AND SURGICAL JOURNAL.

(NEW SERIES.)

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Vol. XV.]

AUGUSTA, GEORGIA, JULY, 1859.

[No. 7.]

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## ORIGINAL AND ECLECTIC.

### ARTICLE XV.

*An Essay on the Adaptation of Climate to the Consumptive, for a permanent residence; embracing an Examination of the climate of certain localities of frequent resort; and also, an Investigation of the degree of adaptedness of the Pacific Climates of the United States.* Presented to the Medical Society of the State of Georgia, at its annual meeting, held at Atlanta, April 13th, 1859. By WILLIAM HENRY DOUGHTY, M. D., of Augusta, Ga. (Ordered to be printed.)

(Continued from June No. page 388.)

### SUMMER OF CALIFORNIA AND THE INTERIOR.

THE study of the summer climate of this State and the adjoining territories, as of the entire Pacific slope, forms a subject of unwonted interest to the climatologist. The striking contrast of the two divisions, more striking than at any other season; the high extra-tropical heat, characterized as almost without parallel, in some of its valleys; the temperature of the northern districts, equal if not higher, than those many degrees of latitude farther south; and also the well-determined influence of the cold waters of the Pacific ocean, refrigerating the continent, contribute to enhance the interest of the subject in a manifold degree. "The cold climates of the Pacific coast in summer, constitute a general phenomenon of temperature more



difficult of explanation than any other, as the degree of refrigeration is so very great, and the contrast with interior districts so extreme over many degrees of latitude. The striking uniformity in the measures of mean temperatures here, which has been alluded to as characterizing nearly all the observed points, is conclusive evidence of the existence of some general and powerful agency, other than the immediate one of cold day winds. The analogies of the coasts of South America, Africa, and the North Atlantic, would indicate at once a reference to great polar currents, and to the transfer of large masses of cold water from the northern parts of the Pacific; but the ordinary sea observations have hitherto failed to discover any regular or marked currents here. Northward and westward from San Francisco, the surface currents appear as frequently from one point as another on Maury's Charts, though the existence of a general movement from the northwest is recognized. There is apparently a deep-sea current from that direction, of great magnitude and volume, which appears only by the lifting of its waters on approaching the coast, and in the general refrigeration of the waters of the whole area, with the consequent effect upon the sea-winds and on the climate of the land. The water temperatures noted in the summer months, are less than those of winter, and their mean is nearly  $57^{\circ}$  or that of the sea-winds, and of the summer on the coast. The body of water so affected is shown by Maury's Chart to extend northwardly toward the Peninsula of Alaska, and to be strikingly uniform in its characteristics of low temperature, absence of surface currents, and continuous northwest winds, so far as observed. This great mass of cold water, and its attendant cold surface atmosphere, develops a strong sea-wind towards the greatly heated and rarefied interior valleys and plains; and where these contrasts of temperature are greatest, the maximum effect is produced as at San Francisco and Monterey. It is not strange, therefore, that the immediate coast is cooled to the temperature of the air and water of so large a portion of the ocean." "The contrasts which induce these violent winds, exist only in the summer months, including May and September, as at other seasons the ocean is quite as warm and the land cooler, and, whatever the degree of aridity, the sudden and extreme rarefactions do not

occur in the winter. As this unusual circulation ceases, the temperature rises, and the spring and autumn are both warmer than the summer, on the immediate coast, over a space embracing several degrees of latitude."

Arriving next to the consideration of the special summer climate, we will first examine the difference of the successive months.

|                        | JUNE.  | JUNE TO JULY. | JULY TO AUG'T. | AUG'T TO SEPT. |
|------------------------|--------|---------------|----------------|----------------|
|                        | Mean.  | Advance.      | Mean.          | Advance.       |
| San Diego, California, | 67°.39 | 5°.33         | 0°.96          | -2°.81         |
| San Francisco, "       | 56°.86 | 1°.04         | -0°.68         | 1°.04          |
| Fort Miller, "         | 83°.16 | 7°.08         | -7°.21         | -6°.94         |
| Fort Defiance, N. Mex. | 64°.00 | 5°.88         | -2°.92         | -10°.77        |

A comparison of this table of advances, with the relative sea-temperatures at the coast stations, is absolutely necessary to a correct appreciation of its merits, and to the full comprehension of the subject. It will be borne in mind, that "the maximum effect" of refrigeration, is found near San Francisco and Monterey, those parts of the immediate coast, both northward and southward of them, being less affected. From the data furnished us of the measurement of the sea-temperatures below San Francisco, to the 30th parallel of latitude, it appears that these cold waters of the Pacific, possess a higher degree of temperature, at least between the 30th and 35th parallels. We give the following in substantiation: "Taking the observations in Maury's Winds and Charts, for these portions of the Pacific, in mean for areas of five degrees of latitude and longitude, we find the areas westward of San Francisco, to give 56°.5, 62°.3, 64°.4, and 68° successively. The areas next southward, or between 30° and 35° of latitude, decrease in temperature westward from longitude 120°, by the successive numbers of 60°.5, 63°.3, 65°.7, and 66°.7, to the meridian of 140°. South of the parallel of 30°, there are no summer observations on the coast. Now San Diego is situated between the 30th and 35th parallel of latitude, consequently the temperature of the sea-waters nearest the shore, is 60°.5, and the mean temperature of June here is only 6°.89 higher, than that of these waters. The

\* See Army Meteor. Register, page 703.

advance from June to July is  $5^{\circ}.33$ , while that of July to August is scarcely a degree of temperature. September presents a decline of  $2^{\circ}.81$  under that of August, and  $1^{\circ}.85$  under July. At San Francisco, we find the mean temperature of the month of June, so great is the influence of the sea, reduced virtually to the temperature of the latter, there being a difference of only  $0^{\circ}.36$  in its favor. This influence of the sea-temperature is still further exhibited in the trifling increase of July over June, the advance being only  $1^{\circ}.04$ , and over that of the sea itself only  $1^{\circ}.40$ . August again, while it recedes  $0^{\circ}.68$  from the mean of July, is yet  $0^{\circ}.36$  higher than that of June, and only  $0^{\circ}.72$  higher than the mean water-temperature. September, instead of manifesting a decline in its mean temperature, when compared with the two last summer months, at San Francisco, as is also true of Monterey, shows the highest mean temperature of the dry season along the coast of California. Belonging, strictly speaking, to the fall season, it nevertheless presents a higher mean temperature, than either of the summer months, being  $1^{\circ}.04$  warmer than August, and  $0^{\circ}.36$  warmer than July. Comparing it with the mean of the sea-waters, it is  $1^{\circ}.76$  higher in its mean temperature. Finally, the mean advance for the season of the land temperatures over those of the sea, is for San Diego,  $10^{\circ}.76$ , and for San Francisco  $0^{\circ}.82$ .

Again, we have added to the above table another station, Fort Miller, California, not found in the corresponding one for the spring season, in order that we might bring out more clearly and forcibly the relation, or rather contrast, existing between the coast and the shielded interior of the State. This post is situated at the foot hills of the Sierra Nevada, about the centre of the San Joaquin Valley, and has an altitude of 402 feet above the sea. In looking over its mean monthly temperatures from January to July, we find a progressive and perhaps somewhat uniform advance in each succeeding month, until the culminating point (July, mean temperature  $90^{\circ}.24$ , 2 years observation,) is reached. It presents an advance of  $7^{\circ}.08$  from June to July; a decline of  $7^{\circ}.21$  from July to August, and a further decline of  $6^{\circ}.94$  from August to September. This post being shielded from the inflowing of the sea-temperature, enables us to arrive approximatively at the actual degree of thermome-



trical influence exerted upon the land temperatures of the coast, by those of the sea (air and water). In other words, the loss of that influence at this place, is fairly expressed, by the increase of temperature over that of the sea, per month, namely, in June  $26^{\circ}.66$ ; in July  $33^{\circ}.74$ ; and in August  $26^{\circ}.53$ . It appears, therefore, that the average monthly reduction of temperature along the coast, assuming all things the same, for this season is  $28^{\circ}.97$  Fahr. We are particular to state this as an approximation merely, for there are many circumstances, which, when taken into account, prevent an accurate calculation. For instance, if the mountainous separation between the coast stations and Fort Miller, was removed, one great intensifying agent (the heating and rarefaction which takes place in the united valleys of the Sacramento and San Joaquin,) would be removed, and as a consequence, the coast would have a much higher temperature than it now has, while Fort Miller, being now influenced to a greater or less extent by the atmosphere of the sea, would experience a reduction of temperature.

Returning now to the far interior post, we observe that the mean temperature of June is  $13^{\circ}$  higher than that of May; that the advance from June to July is  $5^{\circ}.88$ , and also that there is a decline of  $2^{\circ}.92$  from July to August and from August to September, a still farther decline of  $10^{\circ}.77$ . July, whose mean is  $11^{\circ}.98$  higher than that of the same month at San Francisco, presents the highest for the season.

2d. *The general range of the mean temperatures for the summer season.*

| MEAN TEMPERATURE.             | JUNE.               |                     |                     | JULY.               |                     |                    | AUGUST.             |                     |                    |
|-------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|--------------------|---------------------|---------------------|--------------------|
|                               | High't              | Low't               | Range               | High't              | Low't               | Range              | High't              | Low't               | Range              |
| San Diego, California,.....   | 72 <sup>o</sup> .40 | 64 <sup>o</sup> .00 | 8 <sup>o</sup> .40  | 74 <sup>o</sup> .27 | 67 <sup>o</sup> .39 | 6 <sup>o</sup> .88 | 75 <sup>o</sup> .38 | 72 <sup>o</sup> .50 | 2 <sup>o</sup> .88 |
| San Francisco, ".....         | 57 <sup>o</sup> .60 | 55 <sup>o</sup> .30 | 2 <sup>o</sup> .30  | 59 <sup>o</sup> .56 | 56 <sup>o</sup> .58 | 3 <sup>o</sup> .28 | 58 <sup>o</sup> .10 | 56 <sup>o</sup> .65 | 1 <sup>o</sup> .45 |
| Fort Miller, ".....           | 85 <sup>o</sup> .55 | 76 <sup>o</sup> .17 | 12 <sup>o</sup> .38 | 90 <sup>o</sup> .92 | 89 <sup>o</sup> .56 | 1 <sup>o</sup> .36 | 83 <sup>o</sup> .82 | 82 <sup>o</sup> .56 | 1 <sup>o</sup> .26 |
| Fort Defiance, N. Mexico..... | 64 <sup>o</sup> .56 | 62 <sup>o</sup> .40 | 2 <sup>o</sup> .46  | 70 <sup>o</sup> .95 | 68 <sup>o</sup> .16 | 2 <sup>o</sup> .79 | 69 <sup>o</sup> .00 | 64 <sup>o</sup> .94 | 4 <sup>o</sup> .06 |

Taking the entire region under consideration, it appears that the month of August presents the greatest uniformity, in regard to the general range of the mean temperatures. Reviewing the respective stations, we observe that San Francisco shows the least variation in this particular for the whole season, the average per month being only  $2^{\circ}.34$ . Next in order of unifor-

mity to this, is Fort Defiance, whose average per month for the season is  $3^{\circ}.10$ . But there is one particular feature shown by this table, that is strikingly remarkable, namely, the high extra-tropical mean temperatures of this season at Fort Miller. Its usual mean summer temperature is  $85^{\circ}.48$ , constituting, with the exception of Forts McIntosh, Texas, ( $85^{\circ}.91$ ), and Yuma, California, ( $89^{\circ}.95$ ), the highest mean summer temperature within the limits of the United States. Indeed, when compared with the principal cities of the tropical West Indies; it is found to exceed even them in this particular. The mean summer temperature of Havana is  $81^{\circ}.3$ ; that of Kingston is  $81^{\circ}.1$ ; and that of Matanzas is  $81^{\circ}.7$ . This local concentration of excessive heat, is doubtless attributable to its valley situation.

3d. *The extreme single observations in each individual month at the different posts.*

|                               | JUNE.             |                   |                   | JULY.             |                   |                   | AUGUST.           |                   |                   | Mean.<br>Pos.<br>Range<br>for the<br>Seas'n |
|-------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|---------------------------------------------|
|                               | Highest Obs.      | Lowest Obs.       | Pos. Range.       | Highest Obs.      | Lowest Obs.       | Pos. Range.       | Highest Obs.      | Lowest Obs.       | Pos. Range.       |                                             |
| San Diego, Cal., (4 years.)   | 93 $^{\circ}$ .00 | 48 $^{\circ}$ .00 | 45 $^{\circ}$ .00 | 99 $^{\circ}$ .00 | 56 $^{\circ}$ .00 | 43 $^{\circ}$ .00 | 94 $^{\circ}$ .00 | 56 $^{\circ}$ .00 | 38 $^{\circ}$ .00 | 42 $^{\circ}$ .00                           |
| San Francisco, " (5 years.)   | 84 $^{\circ}$ .00 | 47 $^{\circ}$ .00 | 37 $^{\circ}$ .00 | 87 $^{\circ}$ .00 | 46 $^{\circ}$ .00 | 41 $^{\circ}$ .00 | 85 $^{\circ}$ .00 | 50 $^{\circ}$ .00 | 35 $^{\circ}$ .00 | 37 $^{\circ}$ .66                           |
| Fort Miller, " .....          | 121 $^{\circ}$ .0 | 51 $^{\circ}$ .00 | 70 $^{\circ}$ .00 | 118 $^{\circ}$ .0 | 59 $^{\circ}$ .00 | 59 $^{\circ}$ .00 | 113 $^{\circ}$ .0 | 54 $^{\circ}$ .00 | 59 $^{\circ}$ .00 | 62 $^{\circ}$ .66                           |
| Fort Defiance, N. M. (3 y's.) | 98 $^{\circ}$ .00 | 30 $^{\circ}$ .00 | 68 $^{\circ}$ .00 | 95 $^{\circ}$ .00 | 43 $^{\circ}$ .00 | 52 $^{\circ}$ .00 | 96 $^{\circ}$ .00 | 43 $^{\circ}$ .00 | 53 $^{\circ}$ .00 | 57 $^{\circ}$ .66                           |

Thus we may expect, that, at least once in four years the thermometer at San Diego in the month of June, will rise as high as ninety-three degrees ( $93^{\circ}$ ), and fall as low as forty-eight degrees ( $48^{\circ}$ ). By reference to the record for the month of April, it will be perceived that some parallelism exists between the two in this particular—their highest observed degree being the same, while the lowest of the latter is only eight degrees ( $8^{\circ}$ ) below that of the former. The possible range of the thermometer, however, for the month of June, is less than that of April. Farther north upon the coast at San Francisco, there is a tendency in the two extremes to come together, the possible range of the thermometer being thirty-seven degrees ( $37^{\circ}$ ). And while the lowest indication is one degree below that at San Diego, the highest is nine degree ( $9^{\circ}$ ) under that of the same post. This fact of itself, is sufficient to point to some local controlling agent,

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acting here with greater energy; that agent producing some more special action upon the coast temperatures, than is exerted ordinarily by the oceanic waters upon the climate of its contiguous shores. July, at San Diego, shows a higher degree of temperature, attainable in four years, and at the same time raises the minimum observation, consequently the possible range of the thermometer is reduced to forty-three degrees (43°). At San Francisco, this month is somewhat more extreme than the preceding, there being an increase of three degrees (3°) in the maximum observation, and a diminution of one degree (1°) in the minimum, so that the possible range of the thermometer is increased to forty-one degrees (41°).

August, at San Diego, shows a decline in the highest degree of temperature from July, but is still above that of June; its lowest extreme corresponds with that of July. It would therefore indicate a slightly more agreeable temperature condition, than the other months of the season, having a lower degree of heat and a reduction of the possible range of the thermometer to thirty-eight degrees (38°). At San Francisco, August has a higher degree of uniformity than the other two, the possible range of the thermometer being reduced to thirty-five degrees (35°). The lowest attainable point is four degrees above that of July, and three degrees above that of June. There is also a falling off of two degrees from the highest of the former. The regulating influence of the cold waters of the Pacific upon the climate of this post, is well illustrated by the gradual reduction of the possible range of the thermometer for the successive months. Commencing with March, we find its possible range to be 46° ; that of April, 42° ; that of May, 38° ; that of June, 37° ; that of July, 41° ; and that of August, 35° . It would be very difficult to find a more gradual and progressive diminution, even for a more limited period, on any extent of sea-coast. At San Diego, where the determining physical agents are less operative, there is more or less irregularity in the spring months. Its possible range for April is above that of March, and a degree of abruptness equal to fourteen degrees (14°) of temperature, occurs in the change from April to May.

Let us pass now to the interior region. At Fort Defiance, we may expect, that at least once in three years, the thermome-

ter will indicate a degree of temperature equal to ninety-eight degrees (98°), in the month of June, and will retire to thirty degrees (30°), that being the lowest observed in that period. The resulting range is sixty-eight degrees (68°). Comparing similar observations of July with those of June, we have a reduction of thirteen degrees (13°) in the possible range, and a disposition to greater uniformity manifested by the nearer approach of the two extremes. August here differs but little from July, sustaining also the same relation to the first summer month. Compared with the spring season of the same post, we observe that whilst the two extremes do not reach such excessive degrees, yet the measure of their effects is equally perceptible and disagreeable. For although the thermometer does not retire in June to the same degree, that it does in either of the spring months, still its possible range (68°) is greater than those of the first two spring months, and only two degrees (2°) less than that of the third, May. March and April have the same possible range, (61°); May 67° . July and August, compared with the same, show greater uniformity and less abruptness of change in the monthly distribution of heat, the possible ranges of the thermometer being materially less than those of the four preceding months. But we have said, that the degree of the effect of the two extremes in the summer, particularly June, is equal to that of the spring. For example—assuming these monthly extremes to occur within a day in the month of June, we would have an oppressively hot temperature during the day, while at night, the thermometer would retreat below the freezing point, so great is the refrigeration—thereby subjecting the animal frame at once to the heat of summer and the cold of winter. Indeed, whilst ice forms in the night in one's water bucket, by the reduction of temperature; in the day, the softer solids are converted into liquids by the degree of heat. These phenomena constitute perhaps the rule, concerning the temperature distribution of the highest plateaus, for their altitude favors during the day, a rapid absorption, and a concentration of heat; but also favors as quick radiation and diffusion of it upon the withdrawal of the source of heat. Compared with the coast, the summer of the interior is marked by greater variability; the highest and lowest points observed, being much more ex-

treme, and the possible range of the thermometer far exceeding that of the former. Indeed the great variability and want of uniformity of the climatic features here, are as much a subject of surprise and comment, as is the exceeding great uniformity of the same at the post of San Francisco.

Passing now from this, the most interior post, to the intermediate one, Fort Miller, we are struck with its remarkable climatic features. The excessive degrees of heat, almost the highest recorded for any single observation of any post in the United States, is an astonishing feature, and this astonishment is heightened into wonder, when we recollect that this occurs within a hundred and fifty miles of that coast, whereon are found the most equable summer posts, and within the same distance perhaps of those places upon that coast, which possesses that feature of equability most strikingly. Its highest degree for the month of June, is 121° ; its lowest 51° , thus giving a possible range of 70° —two degrees greater than that of the most variable of the season, observed at Fort Defiance, and twice the range of the most uniform at the sea-coast. In July, the thermometer may reach to 118° , but does not decline to the degree observed in June. August manifests a slight return from both extremes. Even for these two last, the possible ranges of the thermometer are far greater than those of the same instrument at the coast stations. The degree of heat recorded in the meteorological reports of the army, which occurs in those interior valleys of the Pacific, that are walled in by high mountains and table lands from the sea, and the more open interior, is not a little remarkable. As has already been intimated, the degree of concentration gives to those posts situated therein, a statistical meteorology almost incredible. Indeed if it were not for many external and physical circumstances, for “the concurrence of so many records,” and also for the assurance that “the instruments were all carefully constructed and carefully compared,” it would be difficult to embrace these observations, as the embodiment of facts. “The valley of the Colorado river of California, is the district of greatest excess, however, the summer season here reaching ninety degrees. A considerable portion of the desert bordering the river on the west, doubtless is quite the same as the military position at Fort Yuma,

though no other part has been observed. West of the Sierra Nevada, another district of extra-tropical temperatures exists in the San Joaquin Valley, represented by Fort Miller, at which post the mean summer temperature for three years is eighty-five and a half degrees. The lower valley of the Colorado, has few parallels in temperate latitudes in its measure of mean temperature, if, indeed, a parallel in the same latitudes, may anywhere be found.”*

“But this and the other last mentioned extreme districts, are still more remarkable for the single extremes observed in those months, and in the mean temperature at the extreme hour of 3 P. M. At Ringgold Barracks, in the Rio Grande Valley, the mean of the observations at 3 P. M., for the entire three summer months of 1850, is one hundred and one and two tenths degrees ($101^{\circ}.2$), and the single extremes reach one hundred and seven degrees for each month.” “Still higher readings are recorded in the Colorado and San Joaquin Valleys of California; at Forts Yuma and Miller, the highest being 121° at Fort Miller,† in July 1853, and 116° at Fort Yuma, in June of the same year. The highest monthly mean for any hour is that at Fort Miller, for June 1852, of $108^{\circ}.4$ at 3 P. M., with a single maximum reading of 116° . There are frequent instances of a mean temperature for a summer month, exceeding one hundred degrees at 3 P. M., one of which occurred at Fort Gibson in August, 1834, and many within the five years of observations in Texas, New Mexico and California.”

But in conclusion, although the currents and mass of cold waters of the Pacific, exert a considerable influence upon the climate of the coast, by their refrigerating power, yet we are taught, and may readily conceive, that alone and unassisted, they are insufficient to accomplish that degree of refrigeration, which is declared to exist by instrumental observation. The physical structure of the coast, particularly where the cold waters are best capacitated to operate, namely off the coast of California, about San Francisco and Monterey, is the additional and pow-

* See Meteorological Register, page 700.

† This extreme is recorded as having been observed in June, instead of July. As references, see Army Meteor. Register, and Blodget's Climatology of the United States, page 80.

erful agent, by which the degree of these effects is determined. The effect of the summer's sun upon the interior valleys and plains, causing them to become greatly heated and rarefied, developes and intensifies the winds from the cold Pacific towards them; thereby enhancing the refrigeration or reduction of temperature of the coast over which they pass, in the effort to supply the partial vacuum formed in those valleys, or to bring into a state of equilibrium the adjacent atmospheres of land and sea. Inasmuch as the San Joaquin and Sacramento Valleys are nearer the ocean, and become as greatly heated and rarefied, if not more so than the adjoining districts, these equalizing currents of air are most intense and powerful at such posts and places, as are intermediate to them and the ocean. So great are these effects, that at certain stations, as San Francisco and Monterey, the mean summer temperature is reduced nearly to that of the absolute sea temperature. Notwithstanding the intensity of these winds, they accomplish their aim so far as the mitigation of the atmospherical condition of these interior valleys are concerned, but partially, because of the interposition of the coast range of mountains.

4th. *The mean of the Maxima and Minima Observations.*

	JUNE.	JULY.	AUGUST.
MEANS OF THE MONTHLY	Maxima	and Minima	Observations
San Diego, California,.....	70°.50	77°.50	75°.00
San Francisco, "	65°.50	66°.50	67°.50
Fort Miller, "	86°.00	88°.50	83°.50
Fort Defiance, New Mexico.....	64°.00	69°.00	69°.50

This table is the more interesting, because it presents to us in a condensed form, much of the essential peculiarity of the climate of these regions. In considering the corresponding table for the spring, we remarked that one of the practical inferences to be drawn from it, was the gradual recession from the higher spring temperature by the coast stations, as the approach to summer was made, or in other words, a commensurate decrease of the temperature of the last spring month, under the commencing operation and influence of those physical agents, which we have seen, are at work for the prevention of high heat during the dry season. But we observe as soon as the summer season is announced at these stations, that the temperature

condition of the first, as indicated by the mean of its maxima and minima degrees, is materially elevated. And again, that at San Diego, where the forces are less influential, that the degrees ($11^{\circ}.50$) of increase is the greatest—while at San Francisco, where they exert a far more intense influence, that the degree of increase is only eight and a half degrees ($8^{\circ}.50$). Observing the advance to the next summer month, we are gratified in finding a leaving off of this abruptness from month to month, by the lower station, in regard to its monthly extremes, the rate of advance from June to July, being reduced four and a half degrees from that of May to June. And from July to August a further reduction of two degrees takes place. At San Francisco, however, in the advance from June to July, we observe greater conservatism, for the difference of the means of their maxima and minima is only one degree, which fact speaks loudly of the increasing intensity of those forces, which are the actors for its accomplishment. It also appears that their present degree of intensity of operation is preserved throughout the month of August, for a difference of one degree only over July is manifested. It would seem therefore, that in the passage from spring to summer, an abruptness of increase of temperature occurs, but having reached a certain point, this feature is abolished by the augmented relative refrigeration, even to the first fall month at San Francisco. Of the interior and intermediate posts, we will not stop to remark, as their general features present no peculiarities, other than those which have already been hinted at during the discussion of the single extreme monthly observations.

5th. *Winds and Weather.*—The same general manner of circulation of the atmosphere is observed during this season, as was noted for the spring, perhaps, the only important difference between the two seasons in this respect, being the degree of its circulation. In the summer, the relative force of the various winds is increased, in consequence of the great and increasing disturbance of the equilibrium of the atmosphere over the land and sea. The southwest wind is the predominant one at San Diego. Ascending the coast to San Francisco, we find that, notwithstanding more points of the compass are embraced in the plan of the circulation of atmosphere, yet the general arrangement

and prevalence differs but little from the former. Here, during the month of June, winds from southwest to northwest inclusive, blow—the west and northwest being the predominant single ones. In July, those from southwest to west are most frequently observed, and in August, the extremes of the points embraced are noted, namely, the southwest and northwest winds. In investigating the winds of this part of this coast (California), we have been struck with the almost total absence of winds from all other quarters at this season. A decided diminution is noted in June, and an absence of them in July and August. This phenomenon is doubtless attributable to the difference of the temperature of the sea and land; and their respective atmospheres. In consequence of which, the regular southwest wind acquires a more direct and westwardly direction off this coast, while those winds further westward, but sufficiently near to be influenced by this disturbance of their equilibrium, following the course of the cold currents and mass themselves, also assume a north-westwardly direction towards the same. Great analogy exists between the winds of this region and those regular winds of the Indian ocean, known as the monsoons. Indeed the same forces are at work, and in the same way, for their production, for the heat of the interior of this portion of the Pacific coast, exerts an influence upon the regular southwest winds sufficient to partially neutralize them, by which they are deflected and made to assume a more westwardly course—the degree of deflection being proportional to the measure of that influence. The difference then between the active causes of these phenomena, and those of the monsoons, is one of degree rather than of principle. Again, we may further remark, that, after the south-west wind has become a land wind, in its course across the State, below and at the southern portion of the conjoined valley of the Sacramento and San Joaquin, and at that of the Colorado, it has a more easterly direction imparted to it by this same agency, and as a consequence the south-east winds would be oftener observed at posts situated therein, as at Fort Miller in the San Joaquin, and Fort Yuma in the Colorado River Valley.

At Fort Defiance, it was observed that during the spring season, winds from the south-west prevailed, but in the summer,

the observations as revealed in the army reports, show no particularly prevalent winds. It is not improbable, that that portion of the Pacific slope, immediately interior to those heated valleys mentioned above, suffers more or less derangement in its atmospherical circulation from them. This latter probability, when associated with its own mountainous surroundings, is perhaps wholly adequate to such a derangement, or rather want of regularity in this regard.

The weather, as exemplified in the mean number of fair, cloudy, and rainy days at these places, is given in the annexed table.

	JUNE.			JULY.			AUGUST.		
	Days.			Days.			Days.		
	Fair.	Cld'y.	Rainy	Fair.	Cld'y.	Rainy.	Fair.	Cld'y.	Rainy
San Diego, California,.....	17.8	12.2	1.2	23.0	8.2	0.2	22.8	8.2	1.0
San Francisco, ".....	21.0	9.0	0.66	12.66	18.33	1.0	10.66	20.33	0.33
Fort Miller, ".....	28.0	2.0	0.5	27.00	4.0	2.0	27.0	4.0	0.0
Fort Defiance, New Mexico.....	23.66	6.33	6.0	27.33	3.66	8.66	26.0	5.00	11.33

The respective mean for the season is, at

San Diego, for 5 years,—Fair 21.2 —Clo'dy 9.53—Rain'y 0.8
 San Francisco, for 3 " — " 14.77— " 15.88— " 0.66
 Fort Miller, " 2 " — " 27.33— " 3.33— " 0.83
 Fort Defiance, " 3 " — " 25.66— " 4.99— " 8.66

Compared with the spring, the weather at San Diego, as exhibited in this table, shows a decided increase in the proportion of fair days, and a diminution of both cloudy and rainy for the season. The fair days largely exceed the others. At San Francisco, we find scarcely a difference in the mean number of fair and cloudy days for this season, both however exceed many times the proportion of rainy days. Compared with the spring, there is a decrease in the mean number of fair days—a slight increase in the cloudy, and a rapid diminution in the number of rainy—the mean proportion of the two last, being as 7.00 to 0.66.

At Fort Miller, the greatest number of fair days for the season, is recorded, and also the least number of cloudy; the proportion of rainy days however, is about that of the coast stations. At Fort Defiance, this season shows a slight decline from the mean proportion of fair days of the spring, a similar increase of

the cloudy, but also gives two and a half times the number of rainy days. We ought perhaps to draw attention to some facts connected with the above representation of the relative condition of the weather, for the individual months. As the summer progresses, the number of cloudy days at San Francisco rapidly increases, and at the same time, no increase in the proportion of rainy days occurs. If we will examine lower down along this coast, as at San Diego, a reverse state exists, in regard to the cloudy days, so that this phenomenon is a local peculiarity of San Francisco and its neighborhood. Its active causes, we have already spoken of in other connexions. Even at Fort Miller, where the same causes exert a very limited effect, there exists a corresponding condition, for whatever difference there may be, it is simply in the degree of effect.

6th. *Rain in Inches.*—This being the dry season of the Pacific slope, the measurements of rain at the coast stations, are merely nominal, but in the interior, as at Fort Defiance, where, as has been stated, a reverse condition exists, there is an augmentation of the precipitation over the spring. The following is a summary of the measurements at the various posts. At San Diego, the mean amount for five years is 0.55 inches; at San Francisco, for three years, it is 0.03 inches; at Fort Miller, it is 0.02 inches; and at Fort Defiance, the mean for three years is 6.41 inches.

AUTUMN OF CALIFORNIA AND THE INTERIOR.

So great similarity exists between the general climatic features of this season and those of the spring, in relation to temperature distribution, as to render an extended notice of it unnecessary. We had occasion, when speaking of the spring, to call attention to the uniformity of advance from March to May. Again we may invoke the same attention to a parallel uniformity of decline in the fall months. As a general rule of the fall months, the temperature of September is the highest, a gradual decline being manifested from it to the winter season, but marked with greater abruptness, as we retire from the sea coast or large bodies of water in the interior. At some places, "September is a summer month," indicating the highest degree of temperature, reached during the dry season; "at San Fran-

cisco, one degree warmer than August." "The temperatures of the Pacific coast are always anomalous, and never more strikingly so, than in these comparisons of points in the curves of the successive months. September is seen to be warmer than July, the whole line from July to October is ascending, and November falls but little below the July mean. The same results are found at Monterey, and they appear to belong to the immediate coast line for several degrees of latitude."*

As indicative of the periods, when a low degree of temperature may be found, we give the following extracts from the same source. "In 1852, the stations of the Pacific and New Mexico, gave temperatures below 40° , as far south as Fort Reading, in California, and at Forts Defiance and Santa Fe, in New Mexico." "In 1853, the low extremes of September are quite the same as in 1852. In 1854, they were observed only at the extreme northern posts in the eastern part of the United States; but in New Mexico and California, there was but little change from the preceding year." Again, "In New Mexico all north of Santa Fe and Fort Defiance, and in Oregon at all points remote from the coast, temperatures below 36° might be expected in this month for every year." And again, "In all parts of New Mexico, when September does not bring ice and frost, they occur in October; but in California, the coast stations observe no ice until November, when it occurs at all points, and as decidedly at San Diego as at San Francisco."

From the tabular statement given, page 713, of the Army Meteorological Register, showing the time of "the first appearance of frost," it appears that, at San Diego, the earliest date in five years, was October fourteenth (14), in 1854, but in 1851, it did not appear until November twenty-eighth (28). At San Francisco, the earliest date for six years, was October twenty-seventh (27), 1854, although it did not occur in 1851, until November twenty-eighth (28). At Fort Yuma, no occurrence of frost is noted during the fall months, its first appearance being dated in 1852, at December the third (3), and its latest in 1854, at December twenty-sixth (26).

The only features of the special fall climate, which we will notice, may be found in the succeeding tables, together with a

* See Ar. Meteor. Register, page 711.

cursory notice of its winds and weather. The tables we shall submit without comment, leaving the reader to draw all inferences, and at liberty to make such comparisons with the other seasons, as he may see fit.

1st. *The extreme monthly observations.*

	SEPTEMBER.			OCTOBER.			NOVEMBER.		
	Highest Obs.	Lowest Obs.	Pos. Range.	Highest Obs.	Lowest Obs.	Pos. Range.	Highest Obs.	Lowest Obs.	Pos. Range.
San Diego, California,.....	101°.0	49°.00	52°.0	99°.0	44°.0	55°.0	84°.0	37°.0	47°.0
San Francisco, ".....	94°.0	43°.0	51°.0	85°.0	42°.0	43°.0	74°.0	38°.0	36°.0
Fort Defiance, New Mexico,.....	87°.0	31°.0	56°.0	76°.0	17°.0	59°.0	72°.0	1°.0	71°.0

2d. *The rate of decline for the succeeding months.*

	MEAN of August.	THE RATE OF DECLINE.			
		Aug to Sep	Sep to Oct	Oct to Nov	Nov to Dec
San Diego, California,.....	73°.68	2°.81	5°.37	8°.58	5°.22
San Francisco, ".....	57°.22	11°.04	0°.35	3°.60	3°.11
Fort Defiance, New Mexico,.....	66°.96	10°.77	9°.95	10°.53	6°.39

3d. *The Mean of the Maxima and Minima Observations.*

	Sept.	Oct.	Nov.
San Diego, California,.....	75°.00	71°.50	60°.50
San Francisco, ".....	68°.50	63°.50	56°.00
Fort Defiance, New Mexico,.....	59°.00	46°.50	36°.50

Concerning the weather of the coast, it may be remarked, that, as this season is the termination of the dry season, as the approach to winter is made the mean number of fair days diminishes; that of the cloudy increases, together with that of the rainy days. There are about five times the mean number of rainy days in November, that there are in September. In reference to the winds, we remark that, as the approach to the wet season is made, the continental winds, (N. E., E., and S. E.,) are seen to blow oftener, although the south and west winds still preserve the ascendancy.

The quantity of rain that falls at this season at the coast stations, is less than half that which falls in the spring. November presents the greatest monthly mean quantity. At the interior posts, the fall months are the termination of the wet season, instead of the dry, consequently less rain will fall in November

than in the other months. The ensuing remarks of Mr. Blodget, will serve still further to elucidate this feature of the autumnal season. "The districts deficient in rain at this season, are nearly the same as at other seasons. The plains, with New Mexico, the Great Basin, and California, are all comparatively dry. In most of California, there is no rain in September, and for all parts south of San Francisco none in October. In this northern half, the rains commence in October, though irregularly, and in the south in like manner in November. In California these rains are rarely continuous for these months, however, or reliable in successive years. They sometimes commence in the form of the more perfectly developed periodical rains of the northern coast, or of this district for December and March, yet they may be as extremely irregular as in any other part of the United States. If the distinction of this season were there the same as it substantially is for the eastern U. States, or defined by declining temperature, and the cessation of vegetable growths, there would be an almost entire absence of rain belonging to it, over the great interior and California district. The heat of summer is in fact, the close of vegetation for most of this region, because of its aridity, and the autumn has little in common with that of the Atlantic States."

WINTER OF CALIFORNIA AND THE INTERIOR.

This season, the one of greatest importance in the search after places of resort for the consumptive, constitutes the chief part of the other of the grand divisions of the Pacific shore climates, namely, the wet season. It is impossible to exaggerate the importance of a careful study of the winter season, by climatologists, particularly when that study is prosecuted for the benefit of those, whose organic forces seem to be so easily disturbed by the ordinary severity of our general winter climate. The acknowledged necessity and the acknowledged difficulty of finding a suitable winter climate for such, serves greatly to enhance the interest of any investigation, however superficial, which has a tendency of removing these difficulties. Therefore, in our review of the climate of this season, we shall avail ourselves of every circumstance at all calculated to influence its ultimate adaptation to persons of consumptive habit. Notwith-

standing the high altitude of the Pacific slope, it presents when examined, especially upon the immediate sea-coast, an equability and uniformity of winter temperature, truly astonishing. And although its vertical configuration, thus exalted and prominent, renders its interior more severe and extreme in point of coldness, when compared with western Europe, yet this same altitudinous interior, serves by preventing the ingress and circulation of the sea-air, to that interior, to preserve a striking degree of elevation of temperature along the coast, and an equally recognizable uniformity. "There is further proof that this cause largely affects the temperature distribution in the high and uniform temperatures of the immediate coast of the Pacific, to the northern limits of these observations. The decrease in the winter mean, is but ten degrees for fifteen degrees of latitude, from San Diego to Astoria, or two-thirds of a degree of temperature to one of latitude. Continuing to Sitka, there is a diminution of six degrees of temperature for eleven of latitude, or nearly the same proportion."*

This equability of temperature is upheld by a reference to the isothermals, which we extract from the same authority. "Of isothermals differing five degrees, but three can be made to cut the Pacific coast from San Diego to the 49th parallel, while in New Mexico, six such lines are compressed within five degrees of latitude, and on a central meridian terminating at the mouth of the Rio-Grande, thirteen isothermals of five degrees difference occur, and on the Atlantic coast the same number from Maine to Florida. The interior line crosses twenty-three degrees of latitude, and that of the Atlantic coast, twenty-two, and taking the differences of temperature of the extreme isothermals, we find the diminution to be at the rate of two and seven-tenth degrees of the thermometer, to one degree of latitude, a ratio, in comparison with that of the Pacific coast, of more than four to one. The compression of lines in New Mexico is exceptional, because the altitude increases very rapidly, yet the area so influenced is so large, that it is necessary to represent the superficial distribution, without reducing the observations to their equivalents at sea-level."

Again. As in the summer, we found the climate of Califor-

* See Army Meteorological Register, page 719.

nia greatly refrigerated by the temperature of the sea-air, rendered so by the coldness of the Pacific waters, so in this season, when those cold waters are supplanted by warmer ones, we find a corresponding amelioration of the winter excesses. During this season, "on the Pacific side, the absolute temperatures are at once higher than those of the land, and higher than in summer for two or three degrees of longitude next the coast. The thermal lines bend abruptly to conform to this difference, but it is probable that after changing position, four or five degrees of latitude, they follow the parallels for an indefinite distance, towards the central regions of the Pacific ocean. The mean of a sufficient number of observations to afford a near approximation to the water temperatures here, gives the numbers 56, 59, 57, 57, 58, for successive areas of five degrees extent, both in latitude and longitude, from San Francisco to the meridian of the Sandwich Islands. On the next line of similar areas southward, or between 30° and 35° north latitude, the numbers taken successively from the coast, are 56.5, 57, 63, 64, and 57." It will be borne in mind, that the general atmospheric circulation of the Pacific, determines the influence of these sea-temperatures upon the western shore climates of the United States, as that of the Atlantic, transports the Gulf Stream atmosphere into Western Europe, thereby ameliorating localities, otherwise excessive in their climatic condition.

Deeming this brief notice of their general winter features sufficient, we pass now to the consideration of its special features, and first in order, we take up the difference of the successive months.

	MEAN Temp. of Nov.	DECLINE FROM			
		Nov to Dec	Dec to Jan	Jan to Feb	Feb to Mar
San Diego, Cal. . . .	56°.92	-5°.22	+0°.20	+1°.37	+2°.73
San Francisco " . . .	54°.31	-3°.11	-1°.60	+2°.18	+1°.09
Fort Defiance, N. M.	35°.66	-6°.39	-3°.09	+4°.60	+7°.52
Fort Miller, Cal. . . .	55°.48	-7°.47	-0°.97	+5°.97	+3°.67

Reviewing this tabular statement, we observe at each of the stations a decided decline from the last fall month to the first winter; and also from the first winter month to the second, except at San Diego; and in the progress from the second to the

third of the season, a uniformity of advance is observed, causing a higher monthly mean temperature for February, over that of January. This latter is the coldest of the season at the three last posts, while December is the coldest at the other (San Diego,) by one-third of a degree. From the last winter to the first spring month, there is a firm advance by all of them, greater abruptness being manifested, however, at the interior post, Fort Defiance, as is the usual characteristic of interior localities.

But one cannot inspect the winter-temperature statistics, without being impressed with the relatively slight decline, that occurs from the fall months, especially along the coast, and the early period at which the reaction and advance to spring is commenced. Indeed the mean of the coldest month of the three stations of California, noted for a period of years, does not reach the point at which frost is constantly formed— $47^{\circ}.04$, being the mean for four years observation of January at Fort Miller.

The greatest decline of temperature at San Diego, occurs during the passage from October to December, which last having been reached, the re-action commences and gradually increases to the spring season. At San Francisco, the period of greatest decline is from November to January, after the passage of which, commences the advance to the spring months. But at the interior post, Fort Defiance, the period of greatest decline commences at September, and ends with the month of January, after that begins the advance to spring.

A few questions here suggest themselves, which perhaps would be neither unprofitable nor uninteresting to ask. Why should the period of decline be longer at the interior, than at the coast? And why should the period of decline at San Francisco, although farther northward, be postponed later than that of San Diego? And again, why do these periods of greatest decline on the coast, occur at this time, and not later in the cold season? The first may be readily answered, by a reference to those agents, which are at work along the coast, to preserve an elevation of temperature, namely, the existence of the dry season, with its higher temperatures during the months of August and September. To the second, we reply that, in consequence of the fact that the highest temperature of the dry season is not reached at the former, until September, the period

of greatest decline must be postponed at least one month later than at the latter, where the highest temperature, (monthly mean), is observed in August. The third query also, finds its solution in the peculiarities of the coast climates. It will be remembered, that the dry season here continues from May to October, and the wet from October to May. During the continuance of the first, the prevalence of cold masses of water off the coast is observed, more potent in their influence at San Francisco and Monterey; and during the second, warmer masses of water are circulating in their stead. Now, it is at this particular time, that the shifting and replacing of these waters are taking place, so that a neutral influence is exerted by them upon the shore climate, which leaves the latter more subject to those atmospherical changes, which are taking place every where upon the continent. And as the progress through the winter is made, the warm waters exercise an increasing influence upon those land climates, for the prevention of an extreme declination during the first winter months, and the subsequent elevation of temperature of the others.

2d. *The extreme Monthly Observations.*

	DECEMBER.			JANUARY.			FEBRUARY.		
	Highest Obs.	Lowest Obs.	Pos. Range.	Highest Obs.	Lowest Obs.	Pos. Range.	Highest Obs.	Lowest Obs.	Pos. Range.
San Diego, California,.....	74°.0	29°.0	45°.0	80°.0	81°.0	49°.0	75°.0	34°.0	41°.0
San Francisco, ".....	71°.0	28°.0	43°.0	69°.0	25°.0	44°.0	84°.0	30°.0	54°.0
Fort Miller, ".....	72°.00	28°.0	44°.0	68°.0	23°.0	45°.0	74°.0	32°.0	42°.0
Fort Defiance, New Mexico.....	65°.0	6°.0	59°.0	55°.0	-20°.0	75°.0	56°.0	2°.0	54°.0

The mean possible range of the thermometer for the entire season, is at San Diego, 45°.00; at San Francisco, 45°.33; at Fort Miller, 43°.66; and at Fort Defiance, 62°.66.

The coast stations under their present exhibition, show a comparative freedom from great monthly extremes; the lowest observed point for five years at San Diego, being 29°.00, which occurred in the month of December; that, at San Francisco, was 25°.00 which occurred in the month of January. Even at Fort Miller, this avoidance of great extremes of temperature is still to be seen, for the coldest month (January,) was found in three years, to show a fluctuation in the thermometer of only forty-five degrees

(45°); the highest attained point being 68°, and the lowest 23°. It may appear somewhat strange, if not paradoxical, to state that these coast stations show a relative freedom from thermometrical extremes, and at the same time, show the extreme fluctuation in degrees for the season, to be on an average at San Diego, forty-five degrees (45°), and at San Francisco, forty-five and thirty-three hundredths degrees (45°.33). In answer to this, we remark that it is not our object to bring forth such thermometrical conditions of these localities, with the view of increasing positively their climatic conditions in the estimation of the profession, but to show them in the worst possible light, so that, that enhancement, if it occurs at all, will occur negatively; and also for the purpose of future comparison. Moreover, if we allow the record as it stands, it will support itself, for if we compare them with similar observations in the interior, or even in the Atlantic plain, they speak volumes for these places. At Fort Defiance, the fluctuation for January is 75°.00, and the mean possible range for the season is 62°.66. Fort Brooke, Tampa Bay, Florida, notwithstanding its situation many degrees of latitude farther south, during three or more years of observation, gave 48° as the greatest possible range of the thermometer for the month of December; 50°, as that of January; and 36°, as that of February, thus making the average for the season 44°.50: thereby showing greater monthly ranges of the thermometer and extremes of temperature, during the months of December and January, than occurred at any of the western stations, which we have selected, except Fort Defiance. The same may be said of St. Augustine,* on the eastern side of the Peninsula, whose monthly extremes and ranges of the thermometer, are even greater than at Fort Brooke, the mean possible range for the season being 49°.33.† Again, during three years observations at Augusta Arsenal, the greatest possible range of the thermometer for December, was 58°; that of January, 58°;

* The observations were taken at Fort Marion, and may be found in the Army Meteorological Register.

† A previous reference has already been made to the diurnal fluctuations of this State, in a quotation from Dr. Kitchen, where a fall of 46° took place in twelve hours, on another occasion, 38° in the same length of time, and on another, in which there was a depression of 20° in one hour.

and the same for February. It is needless to enter into the more minute comparison of this, with the coast stations under consideration, as the bare mention of these observations will suffice to render clear the superiority of the latter. We have selected these three points on the eastern slope, because of their southern position, and their freedom from those structural conformations, which individualize the meteorology of many localities.

3d. *The general range of the Mean Temperatures for the winter.*

	DECEMBER.			JANUARY.			FEBRUARY.			Mean Range for the Season
	High't	Low'st	Range	High't	Low't	Range	High't	Low't	Range	Seas'n
San Diego, California,...	53 ^o .52	48 ^o .69	4 ^o .83	53 ^o .78	50 ^o .11	3 ^o .67	55 ^o .76	50 ^o .30	5 ^o .46	4 ^o .65
San Francisco, " ...	52 ^o .03	50 ^o .09	1 ^o .94	51 ^o .00	47 ^o .93	3 ^o .07	54 ^o .99	49 ^o .91	5 ^o .08	3 ^o .86
Fort Miller, " ...	49 ^o .10	46 ^o .41	2 ^o .69	49 ^o .75	43 ^o .60	6 ^o .15	55 ^o .74	49 ^o .57	6 ^o .17	5 ^o .00
Fort Defiance, N. Mex. ...	32 ^o .03	27 ^o .72	4 ^o .31	29 ^o .47	24 ^o .35	5 ^o .12	33 ^o .62	28 ^o .06	5 ^o .56	4 ^o .99

Having given the highest and lowest points reached by the thermometer at each of these places, on a preceding page, the relatively great uniformity of the mean temperatures of the winter months, and the high degree of those temperatures, further appear from this table. Neither of the coast stations present even as their lowest monthly mean temperature, a stand as low as the point at which frost is commonly formed. The very lowest recorded is 47°.93, in the month of January, at San Francisco, a degree of temperature not sufficient for the production of the lightest frosts. On the other hand, neither of them show a very high mean temperature at this season, for the very highest is 55°.76, for the month of February at San Diego.

Turning our attention to the interior post, Fort Defiance, notwithstanding a considerable increase in the degree of coldness is found, yet irregularity and total want of uniformity of its monthly mean temperatures, cannot be said to characterize the winter, as was found to be true of other seasons, as the spring and fall. For its extremity of cold being reached, the thermometer would appear to remain there until the season closes, since slight differences exist between the highest mean temperatures, and also between the lowest. We may remark, that as the lowest mean monthly indications at San Diego and San Francisco, did not reach the point at which frost is constantly formed,

so the highest at this post, barely exceeded the freezing point, so that the formation of ice at Fort Defiance, is a constant meteorological phenomenon during this season.

Again, the features, which we mentioned above as having been established by this general range of their mean temperatures, namely, the relatively great uniformity, and the high degree of the monthly mean temperatures of the coast, are subjects of great and abiding interest to one in search of a consumptive sanitarium, for these conditions are, in fact, the foundations upon which have been based much of the speculation as to southern emigration in the winter, and many of the attempts that have had their origin in such speculation. Although much has been said by us about the climate of the western coast, perhaps sufficient to cause the approval of a number of our readers, yet we propose to elucidate still farther, the value of its meteorological characters, by comparing them with similar ones of places on or about the same parallels in the Atlantic plain, and along the eastern coast, hoping thereby to secure the acquiescence of the more sceptical, and to increase our own appreciation of it. We have selected for this purpose, the Army posts at Augusta Arsenal, Georgia, and Fort Monroe, Virginia.

	DECEMBER.			JANUARY.			FEBRUARY.			Mean Range for the Seas'n
	MEAN TEMPERATURES.									
	High't	Low't	Range	High't	Low't	Range	High't	Low't	Range	
Aug. Arsenal, Ga., (18 y's)	57°.16	37°.23	19°.93	54°.41	39°.24	15°.17	62°.03	39°.60	22°.43	19°.17
Fort Monroe, Va., (30 ")	51°.79	25°.97	22°.82	49°.71	32°.93	16°.78	53°.51	31°.95	21°.56	20°.38

Perhaps the justice of this comparison may be sought to be impeached by the greater length of the period of observation at these posts, than at the others, and while we deprecate the limited number and extent at the western or Pacific stations, still we think that the length of time embraced by them, is sufficiently extended, to justify us in assuming their general temperature conditions well exemplified, by the record of six years. Nevertheless it is true, that a longer period of observation might show some increase or diminution from the recorded figures. But, on the other hand, as their temperature condition is principally determined by the action of certain physical agents, constant in their operation, we may regard them as less likely to suffer those material changes which would otherwise befall them.

Proceeding to the comparison, we perceive at a glance ~~the~~ the greater extent and fluctuation of the monthly mean temperatures of the Atlantic posts, when contrasted with those of the Pacific. Augusta Arsenal has four times the possible range in its mean temperatures for the month of December, that San Diego has for the same month, and ten times that of San Francisco. During the month of January, its range may exceed that of San Diego, for the same period, more than four times; and is more than five times that of San Francisco. During February, it has four times the range of San Diego, for the same month; and nearly five times that of San Francisco. Its mean range of the monthly mean temperatures for the entire season, is more than four times that of San Diego, and nearly six times that of San Francisco. Comparing the extent of the fluctuation of the mean temperatures of Fort Monroe, with those of San Diego and San Francisco, we find four and a half times the range of the former, and about nearly twelve times that of the latter, for the month of December. For January, it is four times the former, and more than five times that of the latter. And for February, it is more than four times the range at both of these places. Furthermore, the mean range for the season at Fort Monroe, exceeds that at San Diego, nearly five times, and is more than six times that of San Francisco. If now we extend the comparison to the interior posts of the Pacific slope, which are the most rigid in their climatic features, we find much less irregularity in this respect, than is observed at the Atlantic posts.

Upon inspecting the temperature data of the eastern posts, we are readily impressed with the extensive differences, that may exist in regard to the position of the mean temperatures, both of the individual months, and of the entire season. For the high indication of one year or season spent there, affords no guarantee of a similar degree of temperature, at a future period; and the same may be said of the individual months, for the highest and lowest mean temperatures, given in the table, show, that from fifteen to twenty-two degrees of fluctuation may characterize the difference between succeeding months of the same season, or the same months in successive seasons. To express it in a different way, a resident of either of the eastern

stations, who is subjected this year to a mean temperature in December, of $57^{\circ}.16$, may the next, experience a mean of $37^{\circ}.23$, in the same month; or under similar circumstances for January, may experience a temperature of $49^{\circ}.71$, and then one of $32^{\circ}.93$; or under similar circumstances, February of one year may have a mean of $62^{\circ}.03$, and the next, one of $39^{\circ}.60$. Thus at such places, while during one season, the mean thermometrical indication may range far above the frost point; during the next, water would be kept constantly upon the point, of freezing. We conclude therefore, that, whilst irregularity of temperature condition, and alternations of high winter means with low ones, showing their unsettled and variable nature, characterize the Atlantic posts,* the opposite may be legitimately claimed for the Pacific. For, taking the general range of the means for the season at San Diego, it is only $4^{\circ}.65$, and the difference between the highest and lowest monthly mean temperatures, during that season, is only $7^{\circ}.07$. The same observed at San Francisco, are still more favorable; a constant range of high mean temperatures, being at the same time observed. The very lowest at these posts is $47^{\circ}.93$. Hence, a person residing at either of these places, may calculate with some certainty and security, upon a recurrence of similar or approximating temperature conditions, for the next or any coming season.

4th. *The Mean of the Maxima and Minima Observations.*

	DECEMBER.	JANUARY.	FEBRUARY.
MEAN OF THE	Maxima and Minima	Observations	
San Diego, California,.....	$51^{\circ}.50$	$55^{\circ}.50$	$54^{\circ}.50$
San Francisco, ".....	$49^{\circ}.50$	$47^{\circ}.00$	$57^{\circ}.00$
Fort Miller, ".....	$50^{\circ}.00$	$45^{\circ}.50$	$53^{\circ}.00$
Fort Defiance, New Mexico.....	$35^{\circ}.50$	$37^{\circ}.50$	$29^{\circ}.00$

If we will turn to the corresponding table for the fall season, and bring it along side of this, much will be discerned to cause our approval of the course of the thermometer along the coast. We observe a gradual retreat from the higher temperatures of the first fall months, particularly at San Francisco, to the beginning of the wet season; which decline in temperature is owing to the departure of the sun from the northern hemis-

* The same is true of almost the entire slope, from Maine to Texas.

phere, and the continued operation of the sea-temperatures. The progressive withdrawal of the influence of the former leaves this coast, subject to the latter only, and those other forces, which produce the declining temperature of the fall and winter months in the continent generally. But very soon, another difference of operating forces is experienced, for these sea-temperatures are being supplanted by those of higher absolute temperature, and as these last are gradually re-instated, a check is placed upon the action of those other influences, which we have referred to. And as this higher absolute temperature, assisted by the sheltered position of the coast, and the general atmospheric circulation, extends its influence inland, a decided re-action occurs early, in the temperature of the winter months, which re-action is shown by an increase of the mean of the monthly maxima and minima at San Diego, during the second month; and at San Francisco, during the advance from the second to the third. This re-action occurs later at San Francisco, because the action of the sea-temperatures of the dry season is more intense, and is continued longer here than farther southward; but at the same time, the changes from month to month, until the period of re-action, are more gradual and uniform, and even after the re-action has commenced the rate of advance to spring, is also more gradual and less abrupt, than where it commences earliest. It may not be amiss to furnish the decline from the early fall, to this stage of re-action. At San Francisco, as indicated by the mean of the maxima and minima observations, it is as follows: September, $68^{\circ}.50$; October, $63^{\circ}.50$; November, $56^{\circ}.00$; December, $49^{\circ}.50$; January, $47^{\circ}.00$; and February, $57^{\circ}.00$. At San Diego, as follows: September, $75^{\circ}.00$; October, $71^{\circ}.50$; November, $60^{\circ}.50$; December, $51^{\circ}.50$; January, $55^{\circ}.50$; and February, $54^{\circ}.50$. The smaller and more gradual rate of decline of the former, although farther northward, is self-evident. Thus it appears, that during the shifting of the waters off the coast, or during the supplanting of the cold masses of the dry season, by the warm ones of the wet, that the continental influences obtain a temporary ascendancy, but very soon these are counteracted by the increasing intensity of action of the water temperatures.

5th. *Winds and Weather.*—During five years observation at

San Diego, winds from east to west, inclusive, prevailed; those however, from the east and south-west, had the greatest prevalence, for the months of December and February. And during a term of four years for the month of January, winds from north-east to west, inclusive, prevailed; those however, from the north-east, east, and south-west, had the greatest prevalence.

At San Francisco, during three years observation for December, the north-east and west winds had the greatest prevalence; but, taking the whole number of observations, the south and west winds exceeded those from the north and east. During January at this place, for two years, the north and east winds prevailed; those however, from the north and north-east, had the greatest prevalence. Here again, the west and north-west winds prevailed in February, although with the entire number of observations for the month, the south and west winds greatly exceeded those from the north and east.

At Fort Miller, during four years observations for December, winds from east to south-west, inclusive, prevailed; those however, from the east and south-east had the greatest prevalence. At this place in January, during three years observations, north and east winds prevailed, although the east and south-east were, taking the whole number of observations, oftenest observed. Here again for February, during three years, winds from the east and west had the greatest prevalence.

In reviewing the winds of this season at the coast stations, we observe a confirmation of the intimation made by us, when remarking upon those of the autumnal season, namely, that, as the approach to winter was made, the continental winds would be oftener observed than in the other seasons, although those from the south and west would still perhaps preserve a relative ascendancy. Thus at San Diego, we find that, notwithstanding the north-east and east winds were frequently observed, yet those from the south-west were as frequently observed. And at San Francisco, that, notwithstanding winds from the north and east were increased over the preceding season, still, taking the whole number of observations, the south and west exceeded them.

But at the interior post, Fort Defiance, no regularly marked

feature of atmospheric circulation is indicated, for during four years observation for December, winds from the west and north had the greatest prevalence; for January, winds from the south-west and west; and for February, those from the south-west and north-west; thus manifesting no specific circulation, but rather an accidental one, dependent doubtless upon the configuration of the adjoining country, and its mountain aspect, with their necessary interruptions of the regular course of the winds.

In studying the method of circulation of the atmosphere of any locality, in order to appreciate properly and fully its effects upon its climate we must necessarily study the source of its winds, and the regions over which they travel. Thus to an inhabitant of the eastern plain of the United States, winds from the north-east and north-west, although productive of cold, would not only differ in the degree of that coldness, but would also produce essential differences in the hyetal, or rather hygrometric condition of the atmosphere, for the reason, that their places of origin and the nature of the regions over which they pass, would necessarily modify them. The north-west, having its source about the Polar Basin, and its neighborhood of junction with the great Cordilleras, has in its course to cross comparatively little water, but has strictly a continental one, so that nothing intervenes to modify the severity or degree of its coldness. It must therefore appear to us, as a severely cold and dry wind, the truth of which is evidenced in the rise of the barometer, and the fall of the thermometer. On the other hand, the north-east having its source about the northern limit of the Atlantic Ocean, and the west of Europe, has almost a continuous tract of water over which to pass, and that water, as a general thing of a high temperature, so that it becomes materially modified, being rendered less extreme in coldness and more moist, although the former condition is subsequently, partially lost, in consequence of its passage over the cold currents along the immediate coast, and by which it is rendered a cold and moist wind, particularly at this season (winter). If now we turn our attention to the western plateau, the reverse conditions will be found to obtain. Here, the north-east wind, being strictly continental in its origin and course; will have acquired to a

greater or less extent, the properties of the north-west of the eastern plain. While the north-west wind, although having its origin in the northern part of the Asiatic continent, yet has in its pathway the northern part of the Pacific Ocean, by whose warmth and moisture it becomes influenced, being rendered less severe in degree of temperature and more moist. Now applying the principles of their action to California, we perceive that the north-east and north-west winds, would exert material differences of effect upon its climate, from that which at first glance might be carelessly thought. The latter would produce a warm and comparatively moist condition, while the former would produce a cold and dry state of the atmosphere. Indeed if we examine still more closely into the effect of the north-west wind, we will find that, in the absence of the cold northern or arctic current which courses along the eastern shore of the United States, whose power to modify passing winds, we have already recognised, the modification which it undergoes from its passage over the Pacific waters, is much more favorable to the climate of this western region, than is the north-east to the opposite. For along the greater part of this coast, the waters of the ocean, especially off the Californian coast, where it is even higher than the land temperatures, is of a high temperature during the winter season. So that winds from this quarter do not necessarily exert a hurtful influence upon its climate. The severest weather experienced in this State, would appear to be induced by the north east wind.

Of the weather, we give the following summary.

	DECEMBER.				JANUARY.				FEBRUARY.			
	Fair Days.	Cloudy Days	Rainy Days	Snowy Days	Fair Days.	Cloudy Days	Rainy Days	Snowy Days	Fair Days.	Cloudy Days	Rainy Days	Snowy Days
San Diego, California.....	19.8	11.2	7.4	0	21.0	10.0	3.25	0	17.0	11.2	7.6	0
San Francisco, ".....	16.8	14.6	11.8	0	16.0	15.0	9.5	0	15.0	13.0	9.5	0
Fort Miller, ".....	19.2	11.7	8.5	0	24.6	6.8	5.0	0	21.6	6.6	5.6	0
Fort Defiance, New Mexico.....	20.5	10.5	1.0	4.5	24.0	7.0	0.5	4.5	22.5	5.5	0.0	4.5

The respective mean for the entire season, is as follows :

San Diego,—of fair days 19.26—cloudy 10.8—rainy 6.06

San Francisco, of " " 15.86— " 14.2— " 10.1

Fort Miller, of	"	"	21.8	—	"	8.2	—	"	6.36
Fort Defiance, of	"	"	22.33	—	"	7.66	—	"	0.5
and of snowy, 4.5.									

Here we may remark, that, as the progress into winter is made at the coast stations, the relative number of fair days diminishes, although there are a greater number of this character than of the others; the proportion of cloudy and rainy days correspondingly increase. Taking the mean for the season, a larger proportion of fair days is observed at the intermediate station, than along the coast, and also a diminished number of cloudy days. Passing further into the interior, we find a proportion of 22.33 fair days, and a diminution of the cloudy. The number of rainy days here amounts to only 0.5. Another character, however, here imposes itself, namely, the days upon which a fall of snow occurs, of which, there is a proportion of 4.5 per month. Just here we may add, that no record, we believe, of the falling of snow in California at the posts which we have selected, is made during the entire period of observation.

6th. *Rain in Inches at California and the Interior.*—During five years observations at San Diego, for the month of December, the mean fall of rain in inches, is 3.06; for January, during six years, 0.83 inches; and for February, during the same period, 2.01 inches; the resulting mean for the season is 5.98 inches. At San Francisco, the mean of three years for December, is 4.84 inches; for January, 3.23 inches; and for February, 3.31 inches—the mean for the entire season is 11.38 inches. The mean quantity at Fort Miller for December, is 5.34 inches; for January, 1.34 inches; and for February, 1.69 inches—the mean for the season is 9.79 inches. At Fort Defiance, the mean for December, is 1.09 inches; for January, 1.00 inch; and for February, 0.88 inches—the mean for the season is 2.97 inches. During this season, the largest measurements of rain are made at the coast stations, and perhaps the smallest at the interior post; the wet season being in existence along the coast, and the dry in the interior. A larger quantity falls at San Francisco, than at San Diego; indeed nearly double the quantity, the mean of the season being as 11.38 to 5.98 inches. But more than twice as much falls at San Diego, as at Fort Defiance.

A Review of the yearly Meteorological conditions of California and the Interior.—It is unnecessary for us to give in this connexion, an exhibition of the mean temperatures of the individual months or seasons, all of which have been made to appear incidentally already. We shall therefore, confine ourselves to such of its general features, as we may think proper to remark upon, and give no tabular statistics. If however, we inspect a tabular representation of the monthly mean temperatures of the coast stations of California, we will undoubtedly observe much to awaken interest, and to excite our admiration of this feature of its climatic condition. It has been elsewhere remarked, that the seasons of the western slope, have been divided very conveniently into two grand seasons, the wet and dry. This division is obviously founded upon the presence and absence of rain; in other words, it has a hygrometrical basis. Making a thermometrical basis, we may very appropriately divide its seasons, especially those of the coast of California, into that of an increase, and of a decline of temperature. The period of increase embraces three-fourths of the year; that of decline, the remaining fourth. At San Diego, the former occurs from December to August; the latter from September to November. At San Francisco, the first extends from January to September; the second from October to December. December at San Diego, indicates the lowest monthly mean temperature, and the increase from this to the highest monthly mean (August), is marked by a very gradual and steady increase of temperature; the average rate of increase being about $2^{\circ}.75$, of each month over its preceding. The period of declination or retrocession, being much shorter than that of increase or augmentation, the average rate of decline must necessarily be much greater, being about $5^{\circ}.49$ per month. At San Francisco, January is the coldest month, and the increase of heat from thence to September, the highest monthly mean, although suffering two interruptions or temporary declinations, is at the very gradual pace of $1^{\circ}.17$ per month.* The rate of decline is about double that of the

* The interruptions referred to, occur in the months of April and May, and July and August; the mean of May being slightly below that of April, and that of August slightly below that of July, although the next in order at the respective periods, gives an increase over both of the preceding months; June

increase, *i.e.* $2^{\circ}.35$, per month. Moreover, so little extremity is observed here, that the mean annual range* of the monthly mean temperatures, is at San Diego $21^{\circ}.98$, and at San Francisco only $8^{\circ}.66$.

Again, if we turn our attention to the interior post, Fort Defiance, and examine its features of climate, by this thermometric basis, it will be seen, as might be expected, that the rates of increase and decline are very irregular. Furthermore the period of increase here is shorter than upon the coast, being or constituting only seven-twelfths of the year, and the period of decline which is consequently longer than that of the coast, embraces the remaining five-twelfths. January shows the lowest monthly mean temperature, and July, the highest. The average rate of increase is about $7^{\circ}.28$, and that of decline $8^{\circ}.12$. The mean annual range of the monthly mean temperatures is $43^{\circ}.70$.

There is one fact connected with the thermometrical history of the coast stations, which is so striking as to require mention, namely, that the mean temperatures of every month of the year at both stations, with the single exception of the month of January ($49^{\circ}.60$), at San Francisco, are above 50° Fahr. It will also be perceived, that at San Francisco, no month presents a mean temperature higher than 60° Fahr. Even the lowest of the monthly mean temperatures is far above the point at which frost is formed, under the most favorable circumstances. On the other hand, at Fort Defiance, there are records of monthly means extending from $26^{\circ}.18$, to within a small fraction of 70° .—the range here, being from below the freezing point to summer heat.

The mean annual temperature of San Diego, is 62° ; that of San Francisco, $54^{\circ}.88$; that of Fort Miller, $66^{\circ}.08$; and that of Fort Defiance, $46^{\circ}.92$. The greatest range of annual means at San Diego, is $2^{\circ}.3$; and that of Benicia,† California, $3^{\circ}.2$. The mean daily range of temperature “for the five warmer

being higher than April and May; and September, than July and August. The great physical agents at work here, for the production of these phenomena, have already been discussed.

* This is deduced from the highest and lowest monthly mean temperatures.

† This post is “thirty miles north-east of San Francisco, with an exposure over water surface and low plains in all directions, except north and north-west, where there are protecting hills.” Army Meteor. Reg.

months, May to September," at San Francisco, for three years, is $10^{\circ}.5$; and that of Fort Defiance, for the same length of time, is $29^{\circ}.5$.

At San Diego, during four years observations, the mean annual number of fair days, is 235.5; of cloudy, 129.8; of rainy, 42.8. At San Francisco, during two years observation, the mean number of fair days, is 182.5; of cloudy, 180; and of rainy, 68. At Fort Defiance, for two years, the mean number of fair days is 304.5; of cloudy, 44; of rainy, 56; and of snowy, 19.

Thus at San Diego, the fair days exceed greatly both the cloudy and rainy, and also the number of fair days at San Francisco. The proportion of cloudy days is about three times that of the rainy. At San Francisco, the mean number of fair and cloudy days, is about the same, although there are more than two and a half times the proportion of rainy days. But, at Fort Defiance, we observe the largest proportion of fair days, and the smallest of cloudy, although there is a super-addition of snowy days.

The mean annual quantity of rain that falls at San Diego, is 10.43 inches; at San Francisco, 23.59 inches; and at Fort Defiance, 16.64 inches.

The course of the atmospherical circulation at these places, has been shown, while considering the seasons individually. Winds from south to west inclusive, have a predominance over all others, although the north-west wind is frequently recorded at San Francisco. "The rains of this best known portion of the Pacific coast," says Mr. Blodget, "are, as has been said, peculiar in regard to the attending winds, which from San Diego to Puget's Sound, are in nearly all cases from the south-east and south with a strong and steady force. There are also, simply *attendant* winds, and not those which may be said to bring the rains—the course of the clouds above the local or surface wind, being quite regular from the west. But no sooner is precipitation begun, than the attendant south-east wind sets in, to be continued steadily to the end of the rain in most cases." "The direction of the wind is apparently dependent on the trend of the coast, and the mountain ranges near it, and where these are from south to north quite directly, the wind is nearly from the south."*

* See Blodget's Climatology of the United States, page 194.

Finally, any strict regularity of atmospherical circulation is prevented at the interior post, because of its particular conformation and its altitude.

[TO BE CONTINUED.]

*Santonine in Verminous Affections.** (Translated from the Journal de Medecine et de Chirurgie Pratiques, for the Southern Medical and Surgical Journal.) By WILLIAM FARELL, M. D., of Rome, Ga.

NOTWITHSTANDING the great importance once attached to worms, in the production of diseases in children, it has been contended that these parasites had no agency in causing the morbid phenomena formerly attributed to their presence in the alimentary canal. In 1830, M. Guersant here declared, that worms were, by no means, so dangerous as usually supposed, and that convulsions rarely ever depended upon their presence. He farther informs us, that, during his long practice, he had met with but one case, in which death could be legitimately attributed to the existence of worms; this was a child in which a couple of these parasites seven or eight inches long, had become impacted in the biliary ducts.

At present however, authors are re-establishing verminous affections. M. Legendre, a regular physician, published an interesting work three years ago in which he demonstrates in a decided manner, that the tænia gives rise to convulsive affections. Every body knows that ascarides are extremely annoying in passing from the rectum to vagina, etc.; but as the lumbrici are deprived of teeth and other offending weapons, we are amused at the pretended aggressions of this class. Our object, however, is not to treat this subject lightly or critically, but to consider some of its more practical details, as recently developed.

M. Buchut, believes that he has employed anthelmintic medication with the most happy results in many cases of digestive troubles, depending upon obscure causes. He has had recently under treatment a child four years old, of cachectic habit and

*The above valuable paper has been in our hands some months, but was crowded out for want of space in our original department.—[EDTS.]

bloated condition without albuminuria, suffering from great disorder of the stomach and bowels, characterized by vomiting and diarrhœa. This little patient having discharged a worm one day, he took advantage of the apparent indication by prescribing 20 centigrammes (3.0860 grains) of santonine. The next day, while at stool, the patient discharged a lumbrics followed by the expulsion of two more, during the day, without fœcal discharge; treatment continued. The third day, another lumbric was expelled; the fourth, two others, &c., in all, ten lumbrics. Under this treatment the vomiting and diarrhœa were promptly arrested.

M. Buchut had a similar case under treatment last year. This was a little girl suffering with repeated vomiting from an unknown cause. The pupils were dilated, an insufficient indication of the existence of worms. A lumbric, having been discharged however, he determined to employ santonine. As the patient was quite young, he administered but 5 centigrammes (.7715 of a grain) of this powder. The next day she discharged thirty-one lumbrics of different sizes, matted together, and unattended by fœcal discharge. The third day, eight more were expelled, and subsequently, five at one time, and six at another; in all, fifty-one lumbrics. The obstinate vomiting disappeared under the treatment as by magic.

The morbid phenomena produced by worms are of two orders. There are the phenomena of local irritation, depending upon the direct action of the entozoa, and the reflex phenomena, or phenomena of sympathetic irritation. The latter have been mostly denied or contested. In the cases above cited, there was simply local irritation, giving rise to diarrhœa and vomiting; but the annals of science are filled with facts, which equally prove, that the presence of *ascarides lumbricoides* in the alimentary canal, give rise to many serious nervous disorders. Do we not frequently meet with chorea, nervous cough, catalepsy, and even epilepsy, having no other cause, and readily yielding to vermifuge treatment?

M. Buchut has seen, in his practice, a young man of twenty-two years, who was suddenly attacked with lassitude, cephalalgia, and free epistaxis, followed by heat of the skin and accelerated pulse. It was announced that the patient had typhoid fever in its early stage. Under this belief, an emetic was prescribed, which caused him to vomit a lumbric; on the following day

similar occurrences; on the third day he was perfectly well. This fact, with many others, which are not mere coincidences, seem to prove, that the *ascarides lumbricoides*, though destitute of offensive weapons, act as foreign bodies, easily tolerated by some, but impatiently borne by others, according to idiosyncrasy, and that they are capable of producing phenomena of sympathetic reaction as well as phenomena of local irritation. The above facts being well established, the important indication is to expel the lumbrics.

M. Buchut has experimented in this particular, with all the most important vermifuges, employed from time immemorial, and the result is, that *semen cantra* appears to him to be the best anthelmintic ever used, and as chemistry has succeeded in extracting the active principle of this article, an alkaloid appropriately termed *santonine*, he gives preference to this substance over all others of the class.

Santonine, though slightly bitter, is readily administered when mixed with an equal quantity of sugar or with syrup. It may also be incorporated in gum-drops, lozenges, or candy. The last form, however, has the inconvenience of being liable to be attended with errors in the hands of common people. It is better therefore to use the powder, accurately weighed out in proportion to the age of each patient.

M. Buchut prescribes this powder in the dose of 5 centigrammes ($\frac{3}{4}$ of a grain nearly) for each year of the child's age. For instance, the first little patient above cited was four years and six months old, she took therefore from 24 to 25 centigrammes per day, (equal to about $3\frac{3}{4}$ grains).

As the stomach might not tolerate this amount if taken at once, it should be divided into four powders, to be administered at regular intervals through the day, in a little sugar or syrup.

On the Employment of Iodide of Sodium. By ALEXANDER URE, Esq., F. R. C. S., Surgeon to St. Mary's Hospital, and Lecturer on Clinical Surgery.

I submit to the profession the following observations respecting medicines, which will, I trust be found useful in practice. Iodide of sodium is met with in the ashes of sea-weed and of various plants which grow on the sea-shore. To this source may be

reasonably ascribed the belief entertained in the healing virtues of sea-weed by inhabitants of the coast in different parts of the globe. Professor Laycock, in an ingenious address which he delivered at the pharmaceutical meeting in Edinburgh last November, and which is published in the "Pharmaceutic Journal" of the month following, states that "in the pampas of South America, where goître is prevalent, the remedy, a so-called goître-stick, is nothing more than the thick stem of a sea-weed." Mr. Cooper, in his "Surgical Dictionary," recommends for some scrofulous affections the use of poultices of sea-weed.

Iodide of sodium, as a therapeutic agent, is and ought to be more active than iodide of potassium, since it is richer in iodide. According to Gmelin, iodide of sodium contains 84.45 parts of iodine in the hundred, while iodide of potassium contains but 74.27, the portion of sodium, though small, being still sufficient to cover the irritative quality of its associate.

As far as my experience goes, iodide of sodium is a blander salt, more assimilable, and better borne by the stomach, than iodide of potassium. It is, moreover, much less prone to produce symptoms of iodic disturbance. Patients under my care have taken it steadily for weeks together, without suffering the slightest inconvenience, and with uniform advantage as regarded the morbid condition. On no occasion, save one, has there been any complaint made of this medicine producing sense of weight or uneasiness referred to the stomach, nausea, impaired appetite and digestion, headache, running from the eyes and nostrils, general nervous depression—symptoms which at times supervene during the administration of iodide of potassium, even in moderate doses. The instance in question was that of a puny, scrofulous boy, with disease in both knee-joints.

As a general rule, the preparations of soda are milder in their operation on the system than those of potash. If, moreover, the important view, first announced by M. Dumas in the 92nd volume of the "Annales de Chimie," be accepted, that there are certain salts which leave the blood the faculty of becoming arterialized, while others deprive it of this property, and that the salts having soda for their base are more proper to maintain this condition of integrity than those of potash or ammonia, it may be fairly assumed that the former are likely to exercise a more favorable remedial influence than the latter, especially if exhibited continuously for a length of time. Soda, variously combined, is diffused extensively throughout the organism; fully five-sixths of the saline constituents of healthy blood consists of salts of this base.

Iodide of sodium may be prescribed in all cases in which the employment of iodide of potassium is indicated, as antidotal to various constitutional symptoms of syphilis, chiefly of the so-called tertiary group, and where mercury has been properly used

beforehand ; in certain forms of rheumatism ; in chronic affections of the joints and bones of a scrofulous character, particularly where a stealthy inflammatory process had determined copious fibro-plastic depositions or hypertrophy. If judiciously administered, it may be given in progressively-increasing doses, where it is desirable to produce a decided alterative effect on the system. M. Gamberini has furnished a brief notice respecting its use in the volume Schmidt's "*Jahrbücher*" for 1858. Reference is made to 116 cases of constitutional syphilis in which it had been exhibited, and where it was found to have acted more rapidly than iodide of potassium, and often proved efficacious where the latter drug had been of little or no avail. It is there recommended to be given as follows :—One scruple is to be dissolved in three ounces of distilled water, and this is to be swallowed in divided doses in the course of the day. After the lapse of two or three days, the above amount is to be augmented by the addition of six grains ; and so on until eventually the patient comes to take two drachms, or even more, of the salt daily ; the time for taking each dose being an hour before meals.

Hitherto I have usually prescribed the iodide of sodium to the extent of five or six grains twice or thrice daily, dissolved in four ounces of compound decoction of sarsaparilla, which forms a convenient vehicle ; occasionally, in pure water, with the addition of five grains of bicarbonate of soda to each dose ; this serves to counteract acedness, and the consequent liberation of hydriodic acid in the stomach, which is sure to cause headache. In scrofulous complaints, I have given it combined with cod-liver oil, and with manifest benefit. A remarkable and unexpected effect was observed in one instance under this treatment for diseased bone, where a marked improvement of sight ensued from diminution of a nebulous condition of the cornea. In constitutional syphilis, I have found it advantageous occasionally to conjoin the use of the iodide with that of bichloride of mercury, should mercury have been previously withheld, or imperfectly introduced into the patient's system.

As a general rule, the iodide ought to be administered in plenty of liquid, and not on an empty stomach, as suggested by the above writer. It is readily soluble in water, has a cooling saline taste, certainly preferable to that of potassium compound, and by no means equally persistent in the throat.

Subjoined are the notes of one of the several cases in which this medicine has been employed by me. Reports of others, still under treatment, will be duly communicated :—

G. W——, aged twenty-eight, a footman, was admitted into St. Mary's Hospital, under my care, on the 15th November, 1856. He was a wan, emaciated, cachectic-looking man. He complained of pain, referred to the large joints, and of aching in

the back and loins. He was disfigured by patches of rupia, scattered over different parts of the surface; thus on the right side of the nose, at the junction of the nasal bone with the cartilage, was a dark, oval scab, overlying a sore, the size of a shilling, and which seemed, as it were, eating its way into the nostrils; on the tragus of the right ear was a similar scab, as also over the right eyebrow; on the scalp there were several scabs of the same character; on the right arm was a prominent, hardened scab, and another over the left wrist; behind the inner ankle of the left foot was a round, excavated sore, of a dusky-red hue, the sequel or inflammation of the corial tissue. Each scab had been preceded by the formation of a small vesicle of a punctuate character. This eruption was of a month's standing. He suffered besides from an affection of the throat, of three weeks' duration, and which caused great distress in swallowing. On examination, it was ascertained that there was a deep oval ulcer in the left tonsil, covered with greyish-yellow film, and a similar sore in the mucous membrane of the back of the pharynx. He had enjoyed good health until five weeks preceding his admission, when he had an attack of rheumatism, and for which he was successfully treated in this hospital. He denied ever having had any venereal malady; had been married fourteen months, and was the father of a healthy child.

Nov. 18th.—After the scabs had been softened and partially detached by the application of wet lint, I directed the different spots to be touched with nitric acid; the sores in the throat to be swabbed daily with dilute hydrochloric acid; and the patient to take five grains of iodide of sodium in four ounces of compound decoction of sarsaparilla, thrice every day. Ordinary diet.

25th.—Was improved in all respects, more particularly as regarded appetite.

29th.—General amendment; sores in the throat were much reduced in size.

Dec. 3rd.—Nitric acid was applied to the crusts on the scalp.

6th.—The ulcer of the tonsil was healed, and that at the back of the pharynx nearly so.

8th.—The sore on the nose was making favorable progress under the use of water-dressing; the rupia scabs were all disappearing, and there was manifest improvement of the general health. The patient was ordered to have a warm bath twice a week.

15th.—The throat was quite well; the sore on the nose, and that near the ankle, were completely cicatrized; the rupia was extinct. The patient had evidently gained in flesh and strength; his cheeks were plump, his complexion was florid, and he was perfectly free from pain in the back, loins, or joints. He was discharged cured on the 24th of December, 1858, after a sojourn of thirty-nine days in the hospital.

Nothing could be more satisfactory than the result of treatment in this instance, which was simply that of uninterrupted progress to recovery. The case was one of the eroding variety of rupia, termed by some writers *rupia escharotica* and which is occasionally witnessed in the persons of those who have been affected with the constitutional symptoms of syphilis. The man, at the time of his admission, was in a deplorable state of health; his throat was the seat of foul ulcers, one side of his nose was on the verge of mutilation, his body was racked with pain, his countenance marred by an unsightly eruption. After the lapse of about five weeks, he had regained his wonted health, and returned home without any appreciable trace of the disfiguring malady for which he had sought relief within the walls of an hospital.

[*London Lancet.*

Clinical Lecture on Tetanus. Delivered at University College Hospital. By JOHN ERICHSEN, Esq., Surgeon to the Hospital.

GENTLEMEN: The case to which I wish to direct your attention to-day, and to which I propose to append some remarks on the subject of tetanus, is that of a boy named B—, aged thirteen, who was admitted into this hospital on the 12th of December last, on account of sacro-iliac disease. I shall defer any observations which I may have to make on the affection for which he came to us until a future day, when this case will be taken in conjunction with other cases of sacro-iliac disease. But this case is of more special interest, inasmuch as, while here, the boy was seized with symptoms of tetanus, and eventually died of that affection.

The following are some of the leading facts of the case: The boy, who appeared healthy and well nourished, and did not seem to labour under any congenital or constitutional predisposition to disease, became affected six weeks before admission, with symptoms of sacro-iliac disease. On admission, nothing unusual presented itself in the symptoms, and our diagnosis was made at once. In the ordinary course of treatment, an issue was made, by means of potassa fusa, over the back of the articulation, in the usual way. After the separation of the slough (about the fifth or sixth day,) a couple of issue-beads were applied to the ulcerated surface, in order to keep it open and cause a discharge. So far, there was nothing to lead us to suspect the coming evil. On Dec. 24th, the report states that the patient had some stiffness about the jaws, and inability to separate them; there was also some commencing tension about the sterno-mastoid, and some spasmodic action of the muscles of the neck: in fact, on the 24th he was seized with symptoms of the invasion of tetanus. These symp-

toms increased, the muscles of the trunk and extremities became convulsed, symptoms of suffocation appeared, and he died on the morning of the 28th, in a fit of tetanic spasm, notwithstanding the treatment adopted.

Now, such an occurrence as this is, I need scarcely say, most appalling. A patient suffering merely from a local affection, with constitution unaffected, has an issue inserted in the ordinary course of treatment, and in a few days gets, as the result of that issue (and unquestionably it is the result of the issue,) a disease of which he speedily dies. Such an occurrence would indeed be as remarkable as it really is mysterious, were it not that similar ones are by no means infrequent. In fact, surgeons have learned to look upon tetanus as one of those affections which necessarily give rise to an appreciable percentage of deaths in patients suffering from injuries or operations.

With regard to the disease which destroyed the life of this patient, viz., tetanus, I shall say nothing concerning the symptoms, because they exhibited nothing peculiar; but I intend to pass in review a few points connected with its cause, its nature, and its treatment.

1. *Cause.*—Individuals may, doubtless, be seized with tetanus, although not having any breach of surface; but, in the vast majority of cases, the affection comes on as the result of wounds of some description, and these, very generally, wounds of a trivial character. Thus it does not so commonly follow compound fractures of the thigh or leg, as it does minor injuries of the extremities; nor is it so frequent after amputations, resection of joints, or the removal of large tumors, as it is after many minor operations; so that it may be looked upon as most commonly resulting from minor surgical injuries and operations. On looking over a list of the cases which have been under my care in this hospital, I find that, in not one has tetanus come on as the result of the major operations, or more severe accidents, but such injuries as punctures, and compound fracture of the fingers or foot, lacerated wound over the wrist, or a burn on the trunk, are amongst the injuries giving rise to it. So far as operations are concerned, although it may certainly occur after the major operations, it has generally followed such operations as those for varicocele, fistula in ano, ligature of piles. &c., all of which are quite as liable, if not more so, to be followed by tetanus, as the severest operations in surgery.

With regard to the general causes of tetanus, it is no doubt predisposed to greatly by the season of the year, and by epidemic constitution. At those periods and seasons when there are great alterations of temperature—when hot days are succeeded by cold nights—tetanus becomes frequent. In hospital practice there may be no case for months, then several may occur in rapid suc-

cession. The week before this boy died, I saw, not a quarter of a mile from this hospital, another case which also ended fatally. The circumstances in which the patient is placed, exercise great influence; it may occur in the old as in the young, in the weakly as well as in the robust. So far as my experience goes, it is more frequent among young adults and elderly people than at the middle period of life; more frequent amongst the weakly than the robust. Indeed, when a person apparently in robust health is attacked, it will generally be found that, previously to the super-vention of tetanus, he has been subjected to some depressing influence—has been out of health in some way, and has lost tone and vigour.

One of the most important causes of tetanus, especially in military surgery, and, probably, a not unfrequent one in civil practice, is exposure to alterations of temperature and currents of cold air. Hennen states that this was the most frequent cause of tetanus amongst the wounded in the Peninsular War. Larrey observed the same in Napoleon's campaigns. After the battle of Bautzen, a large number of wounded were left upon the field, exposed to the cold night air. Next day a considerable proportion were found to be affected with tetanus. After the battle of Dresden, the same thing was observed; while after Moskowa, where the night was warm, although the number of wounded was immense, the proportion of tetanic cases was very small. In our Indian campaigns, at Chillianwallah, and at Ferozepore, the wounded, after severe exertion under a burning sun, were left exposed during an exceedingly cold night, and according to Dr. McLeod, in a very interesting work called *Notes of the Surgery of the Crimean War*, which I can strongly recommend for your perusal, the result was a large number of cases of tetanus. M. Baudens, again, the chief surgeon to the French army in Algeria, noticed, that out of a small number of wounded placed in a corridor through which played a draught of cold air, a large proportion were seized with tetanus in a single night. All this points to the importance of our not allowing wounded or operated patients to be exposed to draughts of cold air.

The number of cases of tetanus in proportion to the number of wounded varies in civil and military practice, and in different climates, &c. Mr. Rutherford Alcock, who accompanied General Evan's expedition into Spain about twenty-five years ago, gives the proportion of tetanus to wounded as 1 to 79. Sir J. M'Grigor in the Peninsular war, found it to be 1 to 200; and in the Schleswig-Holstein campaign it was, according to Stromeyer, 1 to 350. In the Crimea, so far as we can judge by official returns, the proportion of tetanic cases was very small. These discrepancies are no doubt due to the different conditions under which the soldiers were placed. Thus, in the Crimea, being engaged prin-

cipally in siege operations, the wounded were not left exposed during the night, but were removed at once, and put under cover; and in the Schleswig-Holstein war, each army being close to its base of operations, could take adequate care of its wounded, who therefore were not exposed to those conditions which military surgeons recognize as the most potent causes of tetanus.

As I have already stated, the proportionate number of deaths from tetanus varies widely in different climates. At Bombay, according to Mr. Poland (who in a very able paper, has exhausted the statistics of tetanus,) it is 2.5 per cent. of all deaths; in London, according to the Registrar-General's returns, 00.25 per cent. This preponderance in Bombay is no doubt owing to the heat of the climate; but it must be observed that the proportion is not nearly so great amongst the Europeans there as are amongst the natives.

The situation of wounds: has this any influence in determining the occurrence of tetanus? It is a prevalent opinion, both amongst non-professional and professional people, that wounds of the hand, particularly those of the thumb, and, above all, those of the web between the thumb and index finger, are more prone to be followed by tetanus than wounds elsewhere. Whether this be true or not, admits, I think, of great question. That the hands are much more liable to injury, and are much more frequently wounded, than other parts of the body is evident, and the absolute number of cases following such injuries would therefore be expected to be greater; but whether the *relative* number is greater is questionable. On looking over my notes of eighteen cases of tetanus which have come under my observation, and of which I have kept a record, I find that in five of the eighteen the hand was the seat of injury—that is, a little more than one-fourth; but this, I should say, is about the proportion which injuries of the hand, including those of the most trivial character, bear to injuries of all other parts of the body.

2. *Nature*—The exact nature of tetanus is an unsolved question. Nothing appears more mysterious than an affection such as this, which often seizes an otherwise apparently healthy person suffering from some slight injury, with the more violent convulsive spasms terminating in death in three or four days, or in even less time than that. We have to inquire into the condition of the nervous system, on which such a disease as this is dependent. On examining the brain and spinal cord, we find nothing special to the affection—no lesion which would enable the most experienced pathologist to say that the person had died of tetanus. It is true that we often find some congestion, or softening, as in this case, just above the cauda equina, or a large amount of serosity in the ventricles or subarachnoid space, which may be turbid or bloody; but all such appearances are common to other diseases

besides tetanus, and none of them will enable us to assert the existence of tetanus during life. Look at the brain and spinal cord before us. They are to all appearance perfectly healthy, with the exception of some slight congestion, and a small softened patch in the cord, just above the caudæ equina. They present no special appearance, no sign by which the acutest pathologist could, by any examination, anatomical or microscopical, say that they came from a tetanic patient. Finding no structural lesion post mortem, medical men have been in the habit of calling this, in common with other diseases of which the exact cause is alike unknown, a "functional disease." But the term "functional disease" is only used as a cloak to ignorance; there is no such thing as a functional disease, and the person who uses the expression merely means that he does not know the organic lesion on which the disorder depends. Every function is the result of the action of an organ; every derangement of a function is the result of the derangement of the corresponding organ; and no function can be deranged without previous or co-existing derangement of the organ whose action constitutes the function. As pathology advances, the class of "functional disorders" becomes less and less. We do not now hear of functional disorders of the heart, lungs, or joints, because the pathological anatomy of those parts being well understood, it is possible to refer their diseases to the real cause. As the physiology and pathology of the nervous system are not yet well ascertained, notwithstanding the labours of such men as Marshall Hall and Brown Séquard, many affections of that system are at present inexplicable, and "functional" nervous disorders are very common. No surgeon speaks of "functional" coma, because the particular cause (compression) of the coma is well known and easily recognized; but one still hears of "functional" amaurosis, and tetanus is commonly spoken of as a functional disease. Amaurosis, when I was a student, was looked upon almost solely as a "functional" disorder; but the introduction of the ophthalmoscope has shown that in most cases where functional disease was formerly said to exist, there is, in reality, some structural change in the nervous apparatus of the eyeball appreciable by the naked eye. So it will be with other affections as pathology advances, and disease hitherto vaguely and loosely spoken of as functional will be found to depend on organic changes as appreciable by the senses as are the changes in an amaurotic retina and choroid.

Yet there is in traumatic tetanus, I believe, always a certain condition of the nervous system to be met with, if carefully looked for, namely, an unhealthy state of the nervous branch, or twig, running from the wound. This twig will be found implicated in some way—congested, inflamed, infiltrated; its neurilemma thickened, softened, and discolored, often for a considerable dis-


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tance from the wound. I have never failed to find this when it has been carefully looked for. In the present instance, a cutaneous branch was found lying bare and inflamed in the bottom of the issue-wound. In many other cases I have seen the same. Thus, in the case of a girl who had tetanus, consequent on a small punctured wound on the inner side of the thigh near the knee, a branch of the internal cutaneous nerve was found in this condition. I have seen injury to the internal plantar nerve, by treading on a rusty nail, followed by tetanus, and the nerve after death found irritated and inflamed. A dorsal cutaneous nerve was implicated in a case of tetanus following a slight burn on the back, and the external cutaneous branches of the musculo-spiral were affected as high as the bend of the elbow, in a patient who died from tetanus following injury to the thumb. A similar condition of these nerves was observed in a man with lacerated wound over the wrist. These and other similar cases which have fallen under my observation, clearly demonstrate, that although we may fail in discovering any special lesion in the central nervous system, yet that in most, and—so far as my experience goes—in all cases in which the examination is carefully conducted, it will be found that a nervous twig connected with the wound is irritated and inflamed; and this seems to be the starting point for this so-called functional disease. An organic lesion, not central, but peripheral, still exists, as essential to the production of the affection.

3. *Treatment.*—With regard to the treatment, I need say very little, and that little is in no way satisfactory. The case we are now considering followed the usual course of such attacks, beginning with stiffness of the muscles supplied by the *portio dura*, violent general spasms coming on in the course of twenty four hours, and death occurring between the fourth and fifth day. More than half the cases of tetanus die before, or on the fifth day from the commencement of the spasms. If the patient survive that time, the symptoms tend to become milder, the disease may wear itself out, and recovery follow. I have seen death occur in less than thirty hours, and as late as the twentieth day; so that the fact of the attack being very chronic is no proof of its innocency. Acuteness of attack, however, is a sure sign of great danger. So, also, the sooner the symptoms come on after the infliction of an injury, the greater is the danger, and the more speedy the fatal issue.

In considering the treatment of tetanus, we must divide it into that of the acute or active, and of the chronic or sub-acute form. In the treatment of *acute* tetanus, I believe that no remedy known exercises the slightest *curative* influence. To drug a person affected with active acute tetanus, is, in my opinion, utterly useless. I have never seen nor heard of a case cured by the routine treatment, the sooner we abandon such, I think the

better. Calomel and opium in large doses, the vegetable sedatives, belladonna, conium, henbane, opium, or camphor, largely administered, are all unavailing (when the disease is acute) in retarding, mitigating, suspending, or arresting its progress. If we are ever to cure acute tetanus, we must give up this line of treatment, which we have been taught by experience to be useless, and endeavor to discover some new principle to guide us in the management of this affection. Yet acute tetanus may be cured, though not, I believe, by medicine; and much may be done to mitigate suffering. The first thing to be done, is to divide the nerve leading from the wound, where it can be found and isolated. The wiser plan would be to divide the trunk of the nerve, high up in the limb, so as to get beyond the sphere of the local irritation, which appears to be the chief organic lesion discoverable in these cases. Patients have been cured by this means. Mr. Murray (the surgeon who tied the abdominal aorta) relates the case of a midshipman, who received a wound in the foot from a rusty nail; tetanus came on; Mr. Murray divided the posterior tibial nerve, and the patient recovered. Such cases give hope of being able to save others, and this operation should therefore be done at once, where practicable. It is not, however, by any means invariably successful. Last session, I divided, without success, however, the branches of the external cutaneous for tetanus, following a wound of the back of the hand.

In the general management of the patient, we must remember that we have an exhausting disease to deal with; the patient sweats profusely during the intervals of the spasms, and will soon sink if not supported. All external causes of excitement should be removed from about the patient; he should be kept perfectly quiet, his bed surrounded with screens or muslin curtains. In addition to these means, the occasional inhalation of chloroform will alleviate, though it will not cure, acute tetanus.

In *sub-acute* and *chronic* tetanus, the case is different. If the patient survive the fifth day, and the affection assume a chronic or sub-acute character, we may entertain some hope of his recovery. He should be kept quiet—his strength supported. Terebinthinate enemata, calomel with opium, belladonna or conium, are the remedies to be employed. Many patients have got well under, and seemed to be cured by this plan of treatment. Cannabis indica, ether, and chloroform, have also been recommended, but are not alone to be trusted to. At all events, calomel and opium, and, if you like, belladonna also, may be given with advantage. You may also feel disposed to try the effect of the sedative alkaloids. I am not aware of any cure having resulted from their use, but atropine, applied liberally,

has been beneficial, by mitigating the pain which the patient suffers. Such alkaloids, or the corresponding vegetable extracts, may therefore be applied with benefit.

To sum up: it appears that the best prospect of a cure is to be found in the division of the nerve leading from the seat of injury, whenever this is practicable; in the employment of proper hygienic and dietetic means; in the removal of all sources of external excitement and irritation, local and constitutional; and in the administration of moderate doses of calomel and opium, with turpentine enemata. Such measures as these, I say, appear to be more rational, and to hold out a better chance for the patient, than the empirical administration of specific sedatives, which experience has repeatedly proved to be unavailing in curing the disease, and often even in mitigating its sufferings.—[*Lancet*.

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*On the Treatment of Hooping-Cough by Diluted Nitric Acid.*—By  
JOHN ATCHERLEY, M. R. C. S., Eng.

I wish to direct the attention of the profession to the diluted nitric acid, in the treatment of hooping-cough. It has already been employed in hooping-cough to some extent, and was first recommended some years ago, by Dr. Arnold, of Montreal.

Having had abundant opportunities during the last two years, of testing its efficacy, I may be permitted to speak with some degree of confidence as to its value. I have confined myself exclusively to its use in every case I have had to treat throughout that period, and I can affirm that as the ordinary duration of hooping-cough, has been computed to average ten weeks, in defiance of every method of treatment that had hitherto been adopted, the diluted nitric acid effects its removal in less than three weeks, except in cases where its course has been interrupted by some serious complications.

Any medicine capable of abridging the duration of a disease, whose fatality is in proportion to its continuance, must be of incalculable value; and I am convinced that when it becomes more generally used, it will meet with the concurrence of the profession, and will hold a high place, and be the cardinal remedy, if not supersede all other medicines in hooping cough.

In prescribing the diluted nitric acid, I usually begin with five-minim doses every three hours, say for a child six months old, and gradually increase the dose, in proportion to the age, to fifteen minims every second hour, should the paroxysms become aggravated, or of more frequent recurrence. When the intervals become lengthened, which generally happens after the second day, the medicine may be given less frequently; but



it is of importance that the acid should be continued ten days after all symptoms of the disease have subsided. From the neglect of this precaution, I have seen the cough return with all its former violence, when the medicine has been abruptly discontinued; therefore, it should be given in moderate doses three times a day, after all traces of the affection have passed away.

The form I generally use, is the one originally suggested, viz., diluted nitric acid, compound tincture of cardamoms, syrup and water. This is always taken without the slightest reluctance, as it is agreeable to the taste—a great consideration in prescribing a medicine for children, which requires to be continued for some length of time.

In conjunction with the above treatment, I have invariably employed a stimulating embrocation to the back and chest, night and morning, consisting of one ounce of camphor liniment, and two drachms of spirits of turpentine.

Of course, it is necessary as in all diseases of the respiratory organs, that proper attention should be paid to the state of the bowels, regulation of temperature, clothing and diet. I have also seen great benefit derived from the inhalation of the fumes of burning nitre-paper; two pieces of about four inches square are burnt in the bedroom on retiring to rest, and one piece burnt occasionally in the room occupied by the child in the day time, appears to shorten the paroxysm, and to deprive it in a great measure of its spasmodic character, rendering it more like the cough of ordinary catarrh. Chloroform is the best anti-spasmodic that can be used during the fit, but parents have a great dread of its effects, unless administered by the medical attendant; but from the apparent simplicity in the fumes of burning nitre-paper, they are readily induced to give it a trial.

[*Medical Times and Gazette.*

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Our valued friend and confrere, Dr. E. D. Fenner, of the New Orleans School of Medicine, left for Europe on the 14th of May. On board the steamer which bore him hence, it will be seen that his mind still dwelt on home and its medical interests, and he has furnished the following letter to Dr. Brickell, which will be appreciated by all who know him:

VERATRUM VIRIDE AND CHLORINE IN YELLOW FEVER.

*My Dear Colleague:* As some practitioner may desire to try the new treatment for yellow fever which I brought to the notice of the profession in the October and November numbers of our Journal last year, I have concluded, before quitting the

country, to leave you some plain directions for carrying out the same.

I repeat what has been said before, that I think we have in the *veratrum viride* and chlorine mixture, medicines which are fairly entitled to be *considered remedies for yellow fever*. They will at least fulfill the following indications, viz: *completely control febrile excitement, and keep up the secretions of the liver, kidneys and skin*. Now these are not *all* the indications that are presented in yellow fever, but they certainly are the principal ones, and those to which our remedies are chiefly directed. If the febrile excitement be very moderate, the V. V. will hardly be called for.

My directions, in brief, are as follows:

At the commencement of the attack, order a hot mustard foot-bath, and evacuate the bowels with a mild cathartic, such as castor oil, citrate of magnesia or Seidlitz powders. If the stomach be irritable, with bilious vomiting and a coated tongue, give a gentle emetic of ipecac or salt and mustard.

After this, if the fever be high, give five drops of the V. V. in a little water every four hours, till the pulse be brought down to seventy, when the V. V. will be stopped, or the interval between the doses prolonged so as to keep the pulse at seventy. At the same time begin with the chlorine mixture, and give two tablespoonsful every four hours—thus V. V. at 2, chlorine at 6; V. V. at 8, chlorine at 10, etc. If the fever be moderate from the first, the V. V. may be dispensed with, and the chlorine alone relied on and given more frequently, say every second hour. These doses are for adults. Children, even sucking infants bear the chlorine well, but the V. V. should be very cautiously given to them.

The repetition of foot-baths, sinapisms, spongings, enemata, etc., must be left to the judgment of the practitioner. I have no doubt that quinine in some way would be a valuable adjunct to these remedies, but I will not direct it at present.

The following is the chlorine mixture:

℞. Acid. Hydrochloric,  
Aqua Distillata aa. ʒii. Mix and add  
Potass. Chlorat, ʒii.

Let this be labelled and kept on hand. For use, prescribe as follows:

℞. Chlorine Mixture ʒii.  
Aqua Distillat. oj. M

S. Give two tablespoonsful every two or four hours (*pro re nata*.)

For drink, I like orange leaf tea, lemonade, barley water. *Covering*—generally one blanket. Do not raise up in bed after the first day, until fairly convalescent.

With these two remedies as my main dependence, in twenty-five cases of the bad epidemic last year, I lost only two—one a pregnant lady, who was delivered at the critical stage of the fever—the other a very delicate lady with no recuperative energy.

Dr. W. E. Kennedy told me he treated fifteen cases with these remedies and lost but one.

Dr. C. Beard treated eight cases and lost none.

Dr. S. Choppin treated eight cases and lost one.

Other physicians told me they had tried these remedies with happy effects. I hope others will try them if yellow fever should again appear in any of our cities or villages.

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## EDITORIAL AND MISCELLANEOUS.

DOCTOR LUNSFORD P. YANDELL.—By the following just tribute from the *Louisville Journal*, we learn that this distinguished gentleman, whose name has been so long associated with medical teaching, and the Medical history of the West, has resigned his chair in the University of Louisville, Kentucky, to locate in Memphis Tennessee.

Familiar with his name and reputation from our early youth, as the co-laborer and the equal of such men as Dudley, Drake and Caldwell, we but recently enjoyed the pleasure of a personal acquaintance with Dr. Yandell. Our recent visit to Louisville, afforded us this gratification. His genial face, urbane manners and open-hearted, home-making hospitality, besides a thousand delicate attentions better felt and appreciated than defined, have left an impression upon our heart, which time, nor distance, nor change of place, can never dispel. We have been made to feel that we have an ever welcome place at his board and in his home, whether it be in Louisville or Memphis. *Cælum non animum mutant*, had never a more enduring application.

"That which the fountain sends forth returns again to the fountain."—EVANGELINE.

May his warm heart find responsive throbs all around him in his new home, and may his kind spirit ever breathe the same genial atmosphere which exhales from his own generous soul.

"It was recently announced that this distinguished gentleman had resigned his Professorship in the Medicinal Institute of this



city. We could not read the annunciation, without a feeling of regret, for we had known Dr. Y. as a leading mind in the Institute, from its very beginning.

Dr. Yandell was one of the five or six Professors of the Transylvania Medical College, who left that Institution together, and, under highly favorable auspices, founded the Louisville Medical Institute, which, it is well known, they established upon a broad and deep and strong foundation. For many years, its prosperity was literally unparalleled. Competition sprung up in every direction, but all competition was distanced. And it is certainly due to Dr. Yandell, to say, that a large, very large share of the prosperity of the Institution was the result of his strong, energetic, and well directed efforts. His lectures were always able and popular, and, although his colleagues no doubt lectured as well as he, it is no disparagement to them to say, that he did more than any of them, in building up and sustaining the Institute. He had ever a strong, and to a very great extent, a controlling will. When any public defence of the school, or of persons connected with it was felt to be needed, he was uniformly and never in vain looked to, as the champion who was to fight the battle. And he never fought such a battle unsuccessfully. His clearness and keenness as a writer and thinker, his zeal in behalf of whatever he undertakes, and his unconquerable and almost irresistible spirit, would make him a most formidable antagonist in any encounter.

Dr. Yandell goes to Memphis, and we feel that in his departure, not only the Medical Institute, but our community sustains a serious loss. He is a highly successful medical practitioner, and, what is more, a true and devoted friend, a sincere christian in heart and practice, and as brave and gallant a spirit as ever lived. Though now past the meridian of life, he has more fire in him than a regiment of ordinary men. Most heartily do we commend him to all our friends, wherever he may go."

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AMERICAN MEDICAL ASSOCIATION—TWELFTH ANNUAL MEETING.

*Louisville, Ky., May 3rd, 1859.*

Not having, as yet, seen the Report of the Secretary, we condense a few of the more important particulars of the above meeting from the very full and correct records taken by the special reporters for the *Louisville Journal*.

The Association met at eleven o'clock A. M. in Mozart Hall, the President, Dr. Harvey Lindsley, of the District of Columbia, in the chair, supported by Drs. W. L. Sutton, of Kentucky, Thomas O. Edward, of Iowa, and Josiah Crosby, of Massachusetts, as Vice-Presidents, with Drs. Alexander J. Semmes, of the District of Columbia, and S. M.

Bemiss, of Kentucky, acting as Secretaries. Dr. Caspar Wistar, of Penn., Treasurer, was also in attendance.

The President announced the Rev. Mr. Robinson, of Louisville, who opened the proceedings with prayer.

The Association was then welcomed in a brief but most courteous and eloquent address by Professor Robert J. Breckenridge, chairman of the committee of arrangements.

Professor Joshua B. Flint, President of the State Medical Society of Kentucky, accompanied by Drs. Sutton, Chipley, Spillman and Snead, all ex-Presidents of that Society, came forward and addressed the President of the American Medical Association, welcoming the delegates to their State, and "assuring the Association of the cordial interest of the Profession of the State in the objects and purposes of its institution, and of the readiness of this Society to co-operate in all its endeavors to promote the honor and usefulness of our common calling."

The Secretary, Dr. S. M. Bemiss, then called the roll, when it was found that, besides invited guests, over three hundred delegates were in attendance. The hours of business, as announced by Dr. R. J. Breckenridge, chairman of committee of arrangements, were from 9 A. M. to 12 M., and from 3 P. M. to such hour as the Convention should adjourn upon resolution. The President, Dr. Harvey Lindsley, of Washington, then appointed the following gentlemen a committee to receive and report upon voluntary Essays: Dr. Lunsford P. Yandell, of Kentucky; Dr. Bryan, of Pennsylvania, and Dr. Comegys, of Ohio.

Doctor Harvey Lindsley then read his interesting address, which was listened to with marked attention, and which, besides being an eloquent tribute to the dignity of the Medical Profession and the importance of its improvements, was a paper full of sage and dignified counsel, conversant about the best interests of the important Body, the government of which he was about to resign into the hands of others, and laying out plans for its management and future advancement.

Besides other propositions made in this able address, one of the suggestions struck us as particularly useful—viz: that a committee be appointed to prepare "A SYSTEM OF RULES OF ORDER," which shall be so arranged that they will be adjusted to the wants of this Association, and serves for the working of the body in all its future deliberations. Such a system will facilitate business, prevent much unprofitable discussion on merely parliamentary questions, and close the mouths of many whose chief function and delight has been to question the propriety of the chair's decisions on some mere quibble of rigid technicality. We were much pleased with the address, and hope at some future time to give it a more extended notice in these pages.

After he had concluded, Dr. L. A. Smith, of New Jersey, moved that the thanks of the association be tendered to the president for his able and eloquent address, and it was ordered to be placed in the hands of the appropriate committee for publication, among the proceedings of the meeting.

Dr. Caspar Wister, chairman of the committee on publication, read the annual report, and on motion of Dr. Sayers, of New York, the following resolutions appended to it were unanimously adopted :

*Resolved*, That hereafter every paper intended for publication in the transactions not only be placed in the hands of the Committee of Publication by the 1st June, but it must also be so prepared as to require no material alteration or addition at the hands of the author.

*Resolved*, That authors of papers be required to return their proofs within two weeks after their reception, otherwise they will be passed over and omitted from the volume.

Adjourned until 3 o'clock P. M.

#### AFTERNOON SESSION.

Dr. W. L. Sutton, one of the Vice Presidents, took the chair in the absence of the President.

Dr. D. Meredith Reese, of New York, chairman of the Committee on Nominations, reported the following officers for the ensuing year.

President—Henry Miller of Kentucky.

Vice Presidents—H. F. Askew, Delaware ; Chas. S. Trippler, U. S. Army ; L. A. Smith, New Jersey ; Calvin West, Indiana.

Treasurer—Caspar Wister, Pennsylvania.

Secretary—S. M. Bemis, Kentucky.

Dr. Sayre moved the adoption of the report, which was unanimously agreed to.

Dr. Brainard, of Illinois, moved the appointment of a committee to conduct the newly appointed officers to their respective chairs. The acting President selected Drs. Brainard, of Ill., Mattingly, of Ky., Sutton, of Ind., McDowell, of Mo., and R. J. Breckenridge, of Ky., and they accordingly performed the duties assigned them.

The newly elected President, on taking the chair, addressed the Convention in substance as follows :

*Gentlemen of the American Medical Association* : I am wholly at a loss to command language to express the deep sense of obligation put upon me by calling me to the Presidency of your Association. It is an honor any man may be well proud of, and although I admit, in all sincerity, that you might without difficulty have selected an individual more worthy the position, I may be allowed to say you could not have conferred it upon one who would prize it more highly or cherish it longer with the most grateful recollection. I do esteem it the greatest honor



ever conferred upon me by the profession that I love and to which I have devoted a long life; nay more—it is the greatest honor that could be conferred upon any man by the medical or any other profession in this or any other country; for any decoration of honor or any mark of approbation conferred by a crowned head I should regret as a bauble in comparison. Who are you, gentlemen, when rightly considered? You are the rightful representatives of the great American Medical Profession—an army forty thousand strong, and a body of men, no matter what captious criticism may say in disparaging comparison with the European branch of the profession, in my humble judgment, far superior to the same number of medical men to be found in any quarter of the globe. Although as a body you may not be so learned, so critically and nicely framed in all the minutiae of the profession, yet for strength, integrity and precision in all the great principles guiding to a successful combat with disease, this body is equal if not superior to that of any kingdom of continental Europe.

To be called to the Presidency of such a body of men, is in my sober judgement the greatest compliment that could be conferred on mortal man, provided that man is a devotee of medicine, who has given his whole mind, soul, heart, and strength individually to the profession, and has that high regard for it which will not suffer any less noble pursuit to interfere with the daily though laborious duties of the profession. Coming so recently from a sick bed and still enfeebled in health, I beg to be excused from further remarks and desire you to accept this brief and imperfect acknowledgement of the distinguished honor conferred upon me, instead of what, under other circumstances, I might be disposed to say.

Dr. J. B. Lindsly, of Tennessee, offered the following:

*Resolved*, That a committee of three be appointed by the chair to inquire into and report upon the propriety of dividing the Association into sections for the purpose of performing such parts of its scientific labors as may relate to particular branches of medicine and surgery.

Dr. Brodie moved its reference to the Nominating Committee.

Dr. Brainard explained at some length the object of the resolution of inquiry, and enforced its adoption as the means of giving more effect and usefulness to the proceedings of the Association, the reports of which had heretofore gone out unmaturred, in consequence of the want of concentrated action.

A motion by Dr. Sayre to lay the motion on the table was negatived, and the motion of Dr. Lindsley was then adopted.

The Standing Committee on Prize Essay was called on for their report, but without a response. This was also the case with the Committee on Medical Literature, which had no report to present.

The Special Committee on Government Meteorological Reports made a report, written by Dr. R. H. Coolidge, of the U. S. Army, but read by Dr. Paul F. Eve, of Tennessee, which was referred to the Committee on Publications.

The Committee, appointed in May, 1857, on Criminal Abortion, submitted a report, written by Dr. Storer, of Boston, which was read by Dr. Blatchford, of New York, and referred to the Committee on publication. The following resolutions appended to this report were unanimously adopted:

*Resolved*, That while physicians have long been united in condemning the act of producing abortion, at every period of gestation, except as necessary for preserving the life of either mother or child, it has become the duty of this Association, in view of the prevalence and increasing frequency of the crime, publicly to enter an earnest and solemn protest against such unwarrantable destruction of human life.

*Resolved*, That in pursuance of the grand and noble calling we profess—the saving of human lives—and of the sacred responsibilities thereby devolving upon us the Association present this subject to the attention of the several Legislative Assemblies of the Union with the prayer that the laws by which the crime of procuring abortion is attempted to be controlled may be revised, and that such other action may be taken in the premises as they in their wisdom may deem necessary.

*Resolved*, That the Association request the zealous cooperation of the various State Medical Societies in pressing the subject upon the Legislatures of their respective States, and that the President and Secretaries of the Association are hereby authorised to carry out by memorial these resolutions.

The Convention then adjourned till to-morrow morning at 9 o'clock.

WEDNESDAY, May 4, 1859.

The President, Dr. Miller, called the Association to order at 9 o'clock.

Dr. D. Meredith Reese, chairman of the Committee on Nominations called attention to the fact that the committee could not act definitely until the place for next year's meeting should be designated. He stated also that the Medical State Society of Connecticut had requested that an amendment to the constitution proposed two years since should be taken from the table, relative to the time of meeting.

It was moved by Dr. Blatchford and seconded by Dr. Sayre, that the amendment to the third article of the constitution be taken up, which proposes to add after the words "first Tuesday of May," the words "or first Tuesday of June," and after the words "shall be determined" add the words "with the time of meeting."

The amendment was adopted by a constitutional vote.

Dr. D. M. Reese also stated that the Connecticut State Society had extended a pressing invitation to the Association to hold its next meeting at New Haven, which invitation was referred to the Committee on Nominations.

Dr. Flint from the Committee on Prize Essays, begged leave to re-

port that they received four dissertations in time for a careful and thorough examination, and two others, quite voluminous, only two days before the meeting of the Association. The latter we have felt constrained to exclude altogether from the competition of the present year, on account of the absolute impossibility of reading them with a critical purpose and effect. The others have been carefully examined by all the surviving members of the committee—one estimable associate, Dr. Evans, having been called from all his earthly labors before the active duties of the committee began.

More than one of the four essays we examined exhibited much labor, and a commendable scholarship in their preparation—are voluminous, and in some respects very meritorious papers, but, in the unanimous judgment of the committee neither of them possesses the degree and species of merit which should entitle its author to the association prize.

The committee beg leave furthermore to report that, in their opinion and as the suggestion of their own recent experience, the association should determine in more precise and formal manner than has yet been done the terms and conditions of competition and of success in the contest for prizes, for the government alike of contestants and the committee of adjudication, and that a committee be now appointed to consider and report upon that subject.

Dr. J. B. Lindsley, Chairman of the Committee appointed to inquire into the propriety of dividing the Association into sections, for the better performance of its work in considering the various branches of medicine and surgery, recommended the adoption of such a plan as being indispensably necessary to making this body a working scientific association. They do not deem it necessary to enter into any argument in favor of this plan, it being the one already universally adopted by similar bodies. They would simply recommend, for the present, a division into the following sections, as being most suitable to facilitate the transaction of business viz :

1. Anatomy and Physiology.
2. Chemistry and Materia Medica.
3. Practical Medicine and Obstetrics.
4. Surgery.

The committee do not propose that this subdivision of labor shall in any manner interfere with the regular business of the Association as now conducted ; but only that after having assembled each day in general session, each section shall meet separately for the purpose of hearing and discussing papers on such subjects as properly belong to them, and they therefore recommend that the Committee of Arrangements for the coming year be requested to provide suitable accommodations for



the service of these sections, and that each of said sections shall be authorized to make such arrangements as may be required for the proper transaction of its business.

On motion of Dr. H. F. Campbell, a fifth section of "Meteorology Medical Topography, and Epidemic Diseases, and of Medical Jurisprudence and Hygiene," was added to those already adopted by the association.

Dr. J. W. Singleton, of Ky, moved the suspension of the rules for the introduction of the following :

*Resolved*, That in the death of Dr. A. Evans of Kentucky, the Association has lost one of its most manly and efficient members, and society a friend and benefactor.

The resolution was unanimously adopted.

A voluminous report from Dr. Thomas Logan, of California, on Medical Topography and Epidemics, was received and referred to the Committee on Publications.

The chairman of the Committee on Voluntary Essays, Dr. L. P. Yandell, of Kentucky, stated that he had received a paper on a case of extra-uterine fœtation from Dr. Enos Hoyt, of Transylvania, Mass., and another on a case of accidental poisoning by strychnine from Dr. Douglas Bly, of Rochester, N. Y. He also presented a very voluminous paper entitled, "Observations on some of the changes of the Solids of Fluids in Malarial Fevers, by Joseph Jones, M. D., Professor of Medical Chemistry in the Medical College of Georgia, at Augusta," By request, Prof. Jones gave a verbal abstract of his paper and an exposition of his theory, and on motion of D. W. Yandell the communication was referred to the Committee on Publications.

This verbal abstract presented by our colleague, Dr. Jones, of his Essay on "Some of the Changes of the Solids and Fluids in Malarial Fever," was listened to with marked attention, and indicates that the paper itself, is one of the most valuable contributions ever presented to the association. This paper had been offered by a friend of its author to the chairman of the Prize Committee, but on account of its late presentation, was not examined, and did not come in competition for the prize.

Dr. Lunsford P. Yandell, chairman of Committee on Voluntary Contributions, moved that Dr. Jones's paper be referred to the Committee of Publication, while Dr. Caspar Wister, of Philadelphia, moved that it be referred to the Committee, "with power" to report it one of the Prize Essays.

On motion of Dr. Paul F. Eve, of Nashville, the Essay of Dr. Joseph Jones, of Georgia, was finally referred to the Committee on Prize Essays.

After some most appropriate and feeling remarks, in which the speak-

er expressed his high respect and veneration for the aged Surgeon of the West,

Dr. Eve moved to record the name of Dr. Benj. W. Dudley as a permanent member of the association, which was adopted by a unanimous vote, the delegates all rising to their feet in token of respect.

Dr. J. B. Flint offered the following resolution :

WHEREAS, Our brethren of Great Britain are engaged in erecting a monument to the memory of John Hunter, whose invaluable services in behalf of Physiology and Surgery are recognized and honored, as well on this side of the Atlantic as in Europe, and whereas, this Association, as the representatives of American Medicine, would rejoice in some suitable manner to participate in so grateful a testimonial of gratitude and respect ; therefore—

*Resolved*, That a committee of three be appointed to consider in what manner this participation can best be effected, so as to be acceptable to our British brethren, and consistent with our own means and opportunities of action, with instructions to report at the next annual meeting.

The resolution was adopted, and Drs. Flint, Bowditch and Shattuck, appointed as the Committee.

Dr. Harvey Lindsley offered the following :

WHEREAS, Parliamentary rules of order are numerous, complicated, sometimes obscure, and often inapplicable to such a body as the American Medical Association, and whereas, from the nature of the pursuits of medical men, they cannot be familiar with these rules : therefore—

*Resolved*, That a select committee of three members be appointed to prepare a system of rules for the government of this Association, as few in number, as concise and as perspicuous as possible, to be reported to the next annual meeting.

This resolution was adopted, and Drs. Lindsley, Comegys, and Blatchford, appointed as a committee.

The nominating committee made the following report :

The next annual meeting to take place at New Haven, on the first Tuesday of June, 1860. Dr. Eli Ives is elected junior Secretary.

Committee of Arrangements—Drs. Chas. Hooker, Stephen G. Hubbard, and Benjamin Sullivan, Jr., with power to add to their numbers.

Committee on Prize Essays—Drs. Worthington Hooker, Conn. ; G. C. Shattuck, Mass. ; Usher Parsons, R. I. ; P. A. Jewett, Conn. ; and Jonathan Knight, Conn.

Committee on Publication—Drs. F. G. Smith, Philadelphia, Pa. ; Wistar, do. ; Bemiss, Louisville, Ky. ; Ives, New Haven, Conn. ; Hollingsworth and Hartshorne, Philadelphia, Penn. ; and Askew, Wilmington, Del.

Committee on Medical Literature—Drs. Henry F. Campbell, Ga. ; D. F. Wright, Tenn. ; O. Wendell Holmes, Mass. ; S. G. Armor, Ohio ; and W. H. Byford, Ill.

Committee on Medical Education—Drs. D. M. Reese, N. Y. ; W. K. Boling, Tenn. ; Chas. Fishback, Ind. ; John Bell, Penn. ; Z. Pitcher, Mich.

The following Special Committees were appointed :

On Morbus, Coxarius, and Surgical Pathology of Articular Inflammation—Dr. Lewis A. Sayres, of New York.

On the Surgical Treatment of Strictures of the Urethra—Dr. James Bryan, of Philadelphia.

On Drainage and Sewerage of Large Cities, their Influence on Public Health—Drs. A. J. Simmes, D. C., Chairman ; Cornelius Boyle, and G. M. Dove.

On the Periodicity of Diseases Prevailing in the Mississippi Valley—Dr. J. W. Singleton, of Smithland, Ky.

On Puerperal Tetanus, its Statistics, Pathology, and Treatment—Dr. D. L. McGugin, of Keokuk, Iowa.

On Hospital Epidemics—Dr. R. K. Smith, of Philadelphia.

On Puerperal Fever—Dr. J. N. Green, of Stelisville, Ind.

On Anæmia and Chlorosis—Dr. H. P. Ayres, of Fort Wayne, Ind.

On Veratrum Viride—Dr. James B. McCraw, of Richmond, Va.

On Alcohol, Its Therapeutical Effects—Dr. J. R. W. Dunbar, of Baltimore, Md.

On Meteorology—Dr. J. W. Westmoreland, Atlanta, Ga.

On Milk Sickness—Dr. Rob't Thompson, Columbus, Ohio.

On Manifestations of Diseases of Nervous Centres—Dr. C. B. Chapman, Wisconsin.

On the Medical Topography of Iowa—Dr. T. O. Edwards, Iowa.

On Microscopic Observations on Cancer Cells—Dr. Geo. D. Norris, New Market, Ala.

On the Philosophy of Practical Medicine—Dr. Jas. Graham, Cincinnati, Ohio.

On Some of the Peculiarities of the North Pacific and their Relations to Climate—Dr. Wm. H. Doughty, Ga.

The following special committees were continued or altered :

On Microscope—John C. Dalton, jr., N. Y. ; David Hutchinson, Ind. ; A. R. Stout, Cal. ; Calvin Ellis, Mass. ; Christopher Johnson, Md.

On Diseases and Mortality of Boarding Schools—Dr. C. Mattingly, Ky. ; and Dixie Crosby, N. H.

On the Various Surgical Operations for the Relief of Defective Vision—Drs. M. A. Pallen, Mo. ; T. J. Cogley, Ind. ; and W. Hunt, Penn.

On the Blood Corpuscle—Dr. A. Sayer, Michigan.

On American Medical Necrology.—Dr. C. C. Cox, Maryland.

On the Hygienic Relations of Air, Food, and Water, the natural and



artificial causes of their impurity, and the best methods by which they can be made most effectually to contribute to the public health—Dr. C. C. Cox, Maryland.

On the effect of the Virus of the Rattlesnake, &c., when introduced into the system of Mammalia—Dr. A. S. Payne, Virginia.

On the Climate of the Pacific Coast and its Modifying Influences upon Inflammatory Action and diseases generally—Dr. O. Harvey, California.

On the Constitutional Origin of Local Diseases and the Local Origin of Constitutional Diseases—Dr. W. H. McKee, North Carolina, and C. F. Haywood, New York.

On motion of Dr. Brodie, Dr. A. J. Semmes was requested to serve as Secretary pro tem. during the remainder of the session.

Dr. Gibbes, from the committee to examine into a plan of uniform registration of Births, Marriages, and Deaths, offered the following report:

They have given the same a careful consideration, and they unanimously recommend that the Report be adopted and referred to the Committee on Publication.

They also recommend that the same committee be continued, with instructions to add to the Report in time for publication in the ensuing volume of Transactions a form of registration law which may be likely to answer the requirements of the several States.

Dr. Sayer, of N. Y., offered the following:

WHEREAS, The medical profession at large have an interest in the character and qualifications of those who are to be admitted as their associates in the profession; therefore,

*Resolved*, That each State Medical Society be requested to appoint annually two delegates for each College in that State, whose duty it shall be to attend the examination of all candidates for graduation; and that the Colleges be requested to permit such delegates to participate in the examination and vote on the qualifications of all such candidates.

This was referred to a Committee of Conference.

Dr. Comegys moved the appointment of a committee of five to confer with the Committee of Medical Teachers and report at the next annual meeting, provided that no medical teacher be selected on the part of this association.

Professor Crosby, of Dartmouth College, contended that the elevation of the standard of medical education depend more upon practitioners than Colleges; if bad materials were sent up from physicians' offices for Professors to model into physicians, it could not be expected that good results would follow. He wanted a committee of conference, not based on any sectional feelings, and he believed the whole matter could be arranged satisfactorily.

Dr. D. W. Yandell wished to reply to one remark of Prof. Crosby, as to the bad materials sent by private teachers to the Colleges. He had himself rejected students who were too big fools to be made physicians, and these same persons, in a few months, had gone to some of the Colleges and came back with their diplomas in their pockets. After a very eloquent, appropriate, and conciliatory speech from Dr. Davis, the resolution of Dr. Comegys was unanimously adapted.

After receiving the names of about sixty delegates, which had been recorded at the Secretary's desk during the day, the meeting adjourned to meet on the following day.

As we were not present at the short closing session on the morning of the 5th, we cannot at present give any account of its proceedings; we understand, however, that no important business was done, and that the attendance was small. After this session, the Association adjourned to meet in New Haven, Connecticut, on the first Tuesday in June, 1860, at such place as the committee of arrangements shall designate.

#### THE LATE MEETING.—CUI BONO.

Thus, hastily, and doubtless somewhat imperfectly, we have transferred to our pages such minutes of the twelfth annual meeting of our National Medical Congress as we could gather from our own notes and the more accurate reports published by the enterprising and courteous secular press of Louisville.

Among the many important measures entered on the minutes of this meeting at Louisville, no one, in our opinion, can compare with the proposition originating with, and in committee finally perfected by Professor J. B. Lindsley, of Nashville, Tennessee, viz: "*To divide the Association into sections.*" This we consider one of the most decided advances towards a perfect organization which has been proposed in the association for many years. It is indeed a reorganization of the body, so far as its scientific objects are concerned, making it now no longer, a mere committee for the publication of papers—but a true debating and deliberative body, where medical reports and topics can be discussed, where an interchange of medical opinion may take place, and where an authoritative decision in all matters brought before the various sections, can be given.

Up to the year 1851, the method of appointing the committees to make reports, was radically defective and impracticable. Committees were appointed to make their several reports upon the various departments of medicine. These reports finally degraded themselves into mere Bibliographical notices of the various works published in the several departments, while no special field was cultivated and no specific subject

was ever discussed. No research was made, no contributions furnished the association, except such as had already been published through the journals, or in the form of books; and then a thoughtless condemnation or a no more palatable, because indiscriminating approval, was often the only notice the association took of the labors of American physicians.

Under such a working plan, the Association was becoming the mark for foreign criticism, and even ridicule. The volume which we complacently called "American Contributions to Medical Science," began facetiously to be denominated, "The voluminous boasting of American Physicians." Thinking men every where, and such members of the Association, as had the highest interest of American medicine near their hearts, deplored the deficiencies of a system so embarrassing; but none suggested either remedy or amelioration. The existence of the various Standing Committees, (of Departments of Medicine,) seemed so entirely a part of the fundamental organization of the body, that to attack and depose them, appeared like taking the very keystone of the arch away, when the entire structure, which every one admitted was magnificent, must tumble to pieces. "What was to become of American Medical Literature—of American Surgery—of American Obstetrics, Therapeutics, and American Medical science generally, if the American Medical Association, the grand high national tribunal of the American Medical Profession, does not take cognisance of it, and record it, and foster it, and parade it before the world as American and nothing but American?"

Meanwhile, volume after volume was annually accumulating on the shelves of the members of the Association, and in the libraries of learned societies all over the world. These volumes, containing the reports of the Standing Committees, were far from being valueless, and the Association was, even then, in its infancy, exerting a powerful and wholesome influence over the progress of the Medical Profession in this country. A tolerably fair, though too compendious a *resumé* of the labors of American writers, which are eminently journalistic, was annually distributed to different parts the world, which commanded the attention, if not always the respect, of foreign readers. But still the American Medical Association *as a scientific body*, did not appear, in its transactions, to contribute anything important in the advancement of medical science. It was, up to this time, rather the defender and fosterer of American Medical Science, than the direct promoter of true advancement in medicine. As such, it was looked up to by the best of the profession, with respect and reverence, and its sage counsels were observed as rigidly as the exigencies of the schools and of the profession generally, would permit.



As early as the year 1849, certain members of the association, fully appreciating the embarrassments attending the old working plan, were anxious to suggest committees of a more special character, whose range of duty should be less widely extended, and who, therefore, might be expected, by their researches, to make some real advance in their particular departments. Hence, at the meeting in Boston, as we find recorded on the minutes of the second meeting, Dr. L. A. Dugas, of Georgia, proposed a larger number of committees, giving a more special labor to each. At the same meeting, Dr. Isaac Hays of Philadelphia, proposed to alter the constitution, in so far as related to the Standing Committees, "on Medical Sciences," "on Practical Medicine," "on Surgery," "on Obstetrics," "on Medical Education," and "on Medical Literature."

Neither of these proposed changes in the constitution were acted upon, until May 1851. At the meeting in Charleston, "Dr. Hays of Pennsylvania, called the resolution submitted by himself, during the session of 1849," and Dr. G. B. Wood was appointed chairman of a committee to report upon the subject, as it was by his resolution that Special Committees were to be appointed, in place of the Standing Committees, abolished at Dr. Hays's suggestion.

Twenty-seven Special Committees were reported by Dr. Wood, and Essayists were appointed to various specific subjects of great scientific interest. The very next volume of our transactions, shows marks of vast improvement. The Association now at once assumed its true position among the learned societies of the world, and began to contribute its quota to the general fund of medical knowledge. Those who may have toiled in particular fields of science, had now the opportunity to garner up the harvest of their labors, in the common treasury of the Association, thus making our transactions, each year, the storehouse of the research, and investigation of all American Physicians, whose industry and ability might prompt them to labor in the cause of science.

Although the above method of supplying *subject matter* for the Committees of the Association may be regarded as highly satisfactory, as well as beneficial in its results; still a radical and glaring defect existed in our working plan. This pertained to the disposition made of the essays, after they had been prepared by the various Special Committees, and presented to the Association. One unfamiliar with the course ordinarily pursued by the Association, in regard to the essays, would be astonished to learn that many of the papers, published in the volume of transactions each year, have never been read before the Association, except by title or brief synopsis, and that the *discussion* of a medical topic before that body, is a thing unheard of. The inter-

change of scientific opinion, has not been heretofore one of the exercises or benefits of our meetings, and in this respect, the members who attended them, and those who remained at home, were on an equal footing—both must wait the publication of the Transactions, to ascertain what has been the result of the year's labors. Then only, could they learn whether the papers presented for publication, and virtual endorsement of the Association were creditable, or calculated to degrade that body before the scientific world. Under the plan heretofore in operation, these evils were unavoidable. It cannot be expected that, at a meeting of from three hundred to five hundred physicians, any considerable number of them will be interested in *all* the subjects discussed in the essays to be presented, however important the subject may be, and however deeply interesting its discussion may become, to a certain class of members; for instance, questions of Meteorology in its relations to Hygiene, would seldom be attractive to but few, yet that few would be willing often, to spend hours or even days, in the examination and discussion of essays conversant about them. So with the departments of Physiology, Chemistry and the various practical branches of our science.

Our "*Cui Bono?*" almost forgotten until now, we hope will be yet satisfactorily answered.

A new era has now been inaugurated in the annals of the Association. The meeting just closed at Louisville, in this particular, is one of the most important that we have had for years. The report of the chairman of the Committee, Dr. J. B. Lindsley, recommending the division of the Association into sections, according to the various departments of medicine, fully explains itself, and must meet the approbation of the entire profession, as it, at the time, met the unanimous adoption of the Association. Under this plan, the American Medical Association is now made a working scientific body, and while there is suggested an admirable subdivision of labor, the plan in no way interferes with the regular business of the Association, as now conducted. Papers will now be read before each section, discussed thoroughly, and, if necessary, returned to their authors for revision, or even rejected, if found unworthy of publication—and thus the Association will be saved the risk of publishing reports which have never undergone the slightest examination, as has sometimes been done.

The advantages of this measure might be more extensively argued, but time nor space will not allow. In conclusion, we repeat that we highly approve of the report, and that the thanks of the Association are due to the originator of the resolution, proposing such a valuable improvement in its working system. Even were this the only thing done, we had not met in vain.

MEDICAL COLLEGE OF GEORGIA—THE ANNUAL ANNOUNCEMENT.—Frequent applications for the catalogue and circular have induced the Trustees of the Medical College of Georgia, to secure from our Publisher the introduction of the *College Annual Announcement*, under the cover of our present issue.

Nearly twenty-eight years of the most uninterrupted and gratifying success, while it has perfected them in the art of teaching, has not in the least, diminished the ardor of the corps of Professors in this Institution. With the demands of advancing Science, they have continually extended their appliances and increased their facilities for rendering the most efficient and useful course of Instruction.

The recent arrangement for a special course on *The Diseases of Children*, we fully agree with the Board, is of the utmost importance, and will go far to clear many of the obscurities in the pathway of the young practitioner in a department of medicine, the difficulties of which are everywhere acknowledged. Children are the tenderest and frailest of all human objects, and while their diseases demand the most perfect skill in their treatment, the diagnosis upon which we must base all therapeutic measures, is rendered obscure by the inability of the patients to express intelligibly their sufferings to the Physician. Infantile Symptomatology, Pathology, and Therapeutics therefore, become subjects of the deepest interest to the practitioner, and his neglect to pay special attention to those departments during his collegiate course, is often attended with the most unfortunate results in after life.

The large additions both to the Museum and Library since the last session, and the constantly increasing facilities for both College and Clinical instruction, offer in the approaching session a far more attractive course, in our opinion, than the Trustees of the Institution have been able to present for many years. We refer our readers to the announcement at the end of the present number of this Journal, adding that, whatsoever may be done for other Colleges, the Trustees of the Medical College of Georgia have reason confidently to claim and to *expect* the continued fostering support of the Medical Profession at the South.

MEDICAL COLLEGE STATISTICS FOR 1858-9.—We are able to present the result of the various College Commencements, as has been collected from the circulars and journals, containing their several reports. High in the list of the forty-one colleges in the United States, our readers will find the Medical College of Georgia, both for its number of Matriculants and its number of Graduates. We earnestly hope that the school may continue both to deserve and to enjoy the high appreciation and support of its many friends.



The following list is from the New Orleans Medical News and Hospital Gazette :

|                                      |                 | Matriculants. | Graduates. |
|--------------------------------------|-----------------|---------------|------------|
| Jefferson Medical College.....       | Philadelphia... | 570           | 256        |
| University of Pennsylvania.....      | "               | 410           | 140        |
| University of Nashville.....         | Nashville....   | 436           | 103        |
| University of New York.....          | New York....    | 350           | 128        |
| University of Louisiana.....         | New Orleans..   | 333           | 97         |
| Medical College of South Carolina... | Charleston...   | 195           | —          |
| College of Physicians and Surgeon... | New York....    | 180           | 58         |
| - Medical College of Georgia.....    | Augusta.....    | 165           | 58         |
| New Orleans School of Medicine....   | New Orleans..   | 164           | 36         |
| Pennsylvania Medical College.....    | Philadelphia..  | 130           | 33         |
| University of Michigan.....          | Detroit.....    | 143           | —          |
| Harvard University.....              | Cambridge...    | 139           | 30         |
| St. Louis Medical College.....       | St. Louis....   | 135           | 40         |
| Philadelphia College of Medicine.... | Philadelphia..  | 70            | 19         |
| New York Medical College.....        | New York....    | 107           | 25         |
| Medical College of Ohio.....         | Cincinnati...   | 139           | 32         |
| Kentucky School of Medicine.....     | Louisville....  | 103           | 28         |
| Missouri Medical College.....        | St. Louis....   | —             | 23         |
| Rush Medical College.....            | Chicago.....    | —             | 31         |
| University of Vermont.....           | —               | 80            | 20         |
| University of Buffalo.....           | Buffalo.....    | 67            | 13         |
| Shelby Medical College .....         | Nashville....   | 53            | 11         |
| Albany Medical College.....          | Albany.....     | —             | 48         |
| Medical School of Maine.....         | —               | 50            | —          |
| - Savannah Medical College.....      | Savannah....    | 34            | 8          |
| Dartmouth Medical College.....       | Dartmouth....   | —             | 9          |
| Cleveland Medical College.....       | Ohio.....       | —             | —          |
| Starling Medical College.....        | —               | —             | —          |
| - Oglethorpe Medical College.....    | Savannah....    | —             | —          |
| Memphis Medical College.....         | Memphis....     | —             | —          |
| Medical College of Virginia.....     | Richmond....    | 70            | 20         |
| University of Virginia.....          | —               | —             | —          |
| University of Maryland.....          | Baltimore....   | —             | —          |
| Yale Medical College.....            | New Haven..     | —             | —          |
| Castleton Medical College.....       | —               | —             | —          |
| Berkshire Medical College.....       | —               | —             | —          |
| University of Iowa.....              | —               | —             | —          |
| University of Louisville.....        | Louisville....  | —             | 35         |
| Woodstock Medical College.....       | —               | —             | —          |
| Geneva Medical College.....          | Geneva.....     | —             | —          |
| - Atlanta Medical College.....       | Atlanta.....    | —             | —          |

TYPOGRAPHICAL ERRORS.—Although we have but little to acknowledge in the way of mistakes, in the execution of our Journal, we yet would be glad that all our readers could appreciate the difficulty which often attends the securing of a perfectly correct impression. We find the

following in an exchange newspaper; it is curious, but by no means improbable:

A Glasgow publishing house attempted to publish a work that should be a perfect specimen of typographical accuracy. After having been read carefully by six experienced proof readers, it was posted up in the hall of the University, and a reward of fifty pounds offered to any one who should detect an error. Each page remained two weeks in this place; and yet, when the work was issued, several errors were discovered, one of which was in the first line on the first page.

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THE SOUTHERN FIELD AND FIRESIDE.—This is the title of an excellent Literary Paper, published in this city, which has reached its fifth number. As Physicians, like the rest of mankind, must ever need the softening and recreating influences of Polite Literature, we make no apology for directing the attention of our readers to the above weekly Journal.

The Southern Field and Fireside presents the happy union, as its name indicates, of agriculture and polite literature. Each of these departments is conducted with marked ability by the respective Editors.

The Literary department, is presided over by W. W. MANN, Esq., a most elegant and pleasing writer, who has for many years enjoyed a widely extended reputation as the Paris Correspondent of the Southern Literary Messenger, and the National Intelligencer. His extensive travel, fine taste, thorough acquaintance with the field of literature, both domestic and foreign, and especially his earnest care for the moral influence of his paper, secures to his readers a most refreshing and wholesome weekly repast on the table over which he presides.

DR. DANIEL LEE, the Agricultural Editor, is the distinguished Professor of Agriculture in the University of Georgia. His eminent abilities in this department, have been long known and highly appreciated, and cannot fail to increase, both the value and popularity of the Field and Fireside, by adding the *utile* of agricultural science to the *dulce* of literary refreshment, teeming weekly in its columns.

The Field and Fireside presents eight folio pages, quarto size, each issue containing forty-two columns of reading matter. It is published in Augusta, by JAMES GARDNER, JR., Esq., at \$2.00 per annum. We refer our readers to the prospectus to be found under the cover of the May number of this Journal.

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*Strychnia in the Adulteration of Alcoholic Liquors.*—Dr. Henri Erni, in an article in the Peninsular and Independent Medical Journal, denies that strychnia is ever used for the adulteration of alcoholic liquors; 1st, because it would be detected by its intensely bitter taste, which is evident when dissolved in seven hundred thousand parts of water; 2nd, because of its high cost; 3rd, because it is a most dangerous poison, and

one which, unlike most organic poisons, can be readily detected by chemical tests. With regard to malt liquors, Dr. Erni states that this poison cannot be introduced into them together with hops, since the tannic acid, which these always contain, precipitates strychnia completely, in the form of an insoluble compound. As a substitute for hops, it would be much less likely to be employed than aloes and many other bitter drugs, on account of its high price.—[*N. Orleans Med. News and Hospital Gazette.*]

*Tracheotomy.*—Dr. Brainard, of the Chicago Medical Journal, gives the following as his method of preventing hemorrhage in this operation, and keeping the opening in the trachea pervious without resorting to a tube: "Having incised the skin and fascia, by successive and careful incisions, I press the sterno-hyoid and sterno-thyroid muscles to each side with the fingers, and thus expose the thyroid body. This effected, I pass under the isthmus a director curved or an aneurismal needle. This is followed by a common suture needle, which may be passed with the blunt end foremost, armed with two very strong ligatures. A ligature is then tied very firmly on each side, and the isthmus of the thyroid body divided between them. A little dissection with a blunt instrument denudes the trachea to the required extent, and an opening can be made without a drop of blood being drawn into it. The ligatures which have been thus secured, save the purpose of fixing the trachea, if desirable, and they may be tied behind the neck so as to raise it forward and keep the wound open.

"The necessity of using the tube I avoid by the following means: Having denuded the trachea, insert a small suture needle, armed with a ligature beneath two of its rings. Withdraw the needle, and drawing gently up on the thread, make a semi-circular incision on one side so as to form a *valve*, readily opened by drawing upon the thread. The opening thus formed can be kept patent or be all owed to close at will."—*Ibid.*

*Wutzer's Operation for the Radical Cure of Inguinal Hernia.*—Dr. W. W. Goodwin reports, in the *Louisville Medical Gazette*, his success in this operation, and says:—It is estimated that one-tenth or one-twelfth of the human family, at some period of life, are subjects of the disease, in some form, and that eighty per cent of the cases are inguinal; from which the great importance of any efficient operation, which is at the same time free from danger, is apparent. The success of the operation, thus far, has been very satisfactory; the few failures that have occurred were principally in cases of long standing, when the rings and canal were greatly enlarged, or from imprudence on the part of patients. In some instances the operation had to be repeated before the cure became permanent. In those cases where the rings and canal are not much enlarged, I am confident that the radical cure may be relied on with the utmost certainty. The operation is almost painless, and almost entirely free from danger. From the best information I can get, it has been performed between two and three thousand times without one fatal result, or any serious suffering or apparent danger in any case. More cannot be said of the most trivial operation in surgery.



Dr. G. recommends a light truss and broad pad to be applied when the patient first assumes the erect posture. The introduction of irritants on the cylinder, as cantharides ointment, as recommended by Rothermel, he thinks entirely unnecessary, and does not believe that it favors the adhesion between the serous surfaces of the inguinal canal and invaginated scrotum, nor that the adhesion of the integumentary surfaces of the plug adds anything to the success of the operation, but regards the occurrence as a positive evil in the event of the failure of the operation, as it would interfere with its repetition.—[*Ibid.*]

*Ipecacuanha in Post Partum Hemorrhage.*—Dr. J. B. Read reports, in the *Savannah Journal of Medicine*, a marked case of arrest of uterine hemorrhage after delivery. After the persevering use of ergot, cold effusions on the surface of the abdomen, ice within the uterus, and other remedies, the hemorrhage still continued. Despairing of the patient's recovery, half a drachm of powder of ipecacuanha was administered, in accordance with a suggestion of Mr. Higginbottom (*London Lancet*, July, 1845.) "In five minutes vomiting was induced, and with the very first effort the uterus contracted suddenly and firmly, expelling the hand which had been introduced from its cavity. Her pulse became stronger, color returned to her lips and face, and she exclaimed, "I feel all right!" Her vomiting continued, at intervals, for perhaps ten minutes.

The loss of blood in this case must have been very great, as the patient remained pallid and bloodless for a long time.

Dr. Read believes that the result was produced by the simple act of emesis, rather than from any specific action of the article administered. He alludes to the sympathy that exists between the uterus and stomach, to the facts that uterine pains during labor are often accompanied by vomiting, and that vomiting during the latter months of pregnancy, when violent and long continued, produces uterine contraction, and thus may occasion premature delivery.

"The physiology of the act of emesis, the great excitement of the nervous system produced by it, and the powerful state of contraction into which the abdominal muscles are thrown during the expulsion of the contents of the stomach, will doubtless readily explain the action of the ipecacuanha in this case, whilst from its rapidity of action, and the innocuous qualities of the medicine itself, independent of any special anti-hemorrhagic power it may possess, will recommend it to practitioners in preference to other emetic agents."—[*Ibid.*]

*Bottles to Prevent Accidental Poisoning.*—A bottle has been recently patented in England, to obviate the frequent recurrence of accidental poisoning, which has of late years excited so much painful attention in that country.

The object sought to be obtained was a bottle which should present so marked and sensible a difference in appearance, touch and use, to those employed for ordinary purposes, that the possibility of mistake would be avoided. The *Lancet* gives the following description of the bottle: In shape the bottles are hexagonal, with deep flutings or

grooves running lengthways along the bottles. To sight and touch they instantaneously present most striking points of difference from any other kind of bottle. Vessels of this description, made in blue glass, are intended to be used for external applications only. For poisonous or powerful medicines, prepared or not from prescriptions, the dose of which is a tea-spoonful and under, bottles similarly shaped and fluted, in white glass, are proposed to be employed. The bottles are provided with an entirely new contrivance, the effect of which is to make it impossible to pour out the contents otherwise than very slowly and gradually, almost drop by drop. This is accomplished by the simple and inexpensive plan of contracting the neck of the bottle at the lower part of the shoulders, and the mouth being of the usual size, the process of filling is but slightly affected by the contraction. The very deliberate and cautious action thus produced, will, it is believed, deter any one from taking over doses of medicine; while it is difficult to imagine a case in which any one could pour out and take the whole contents of one of these bottles in mistake for something else.

To illustrate the manner in which the patent bottle acts in comparison with ordinary ones, it may be mentioned that not more than a teaspoonful would come out of the one, in the same time that an ordinary phial would take to discharge its contents. A person about to take a wrong medicine, say laudanum, contained in a patent bottle, and proceeding to pour it, would be struck by finding that instead of the whole draught having run into the wineglass at once, as usual, merely a teaspoonful would have left the bottle. This would naturally lead to an examination of the label, and consequent discovery of the dangerous error.

Although to employ a two ounce bottle would tire the hand and arm of the holder, yet when only the proper dose is sought to be withdrawn, the patience is not taxed in the slightest degree.—[*Boston M. & S. Jl.*]

*Dr. George B. Wood.*—We are sorry to have occasion to announce that this distinguished physician has resigned the posts he has for so many years filled with such signal ability, of Professor of the Theory and Practice of Medicine, in the University of Pennsylvania, and of Physician to the Pennsylvania Hospital. The former resignation takes effect at the close of the next course of lectures; the latter, immediately.

There are few men in this country who have served their profession as faithfully, honorably, and disinterestedly as Dr. Wood has, and it is not too much to say that the news of his retirement from the active duties of his profession, will be received by his brethren with universal regret.

At a meeting of the Board of Managers of the Pennsylvania Hospital, held on Monday last, Dr. F. G. Smith was elected one of the physicians to the institution, in place of Dr. Wood, resigned. Dr. Smith is a gentleman of high scientific attainment and good practical abilities. The appointment is a judicious one, and well deserved.

[*Medical and Surgical Reporter,*

*Nothing Impossible.*—You can do anything if you will only have patience; water may be carried in a sieve, if you can only wait till it freezes.—[*Ledger.*]

# SOUTHERN MEDICAL AND SURGICAL JOURNAL.

(NEW SERIES.)

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Vol. XVI.]

AUGUSTA, GEORGIA, AUGUST, 1859.

[No. 8.

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## ORIGINAL AND ECLECTIC.

### ARTICLE XVII.

*An Essay on the Adaptation of Climate to the Consumptive, for a permanent residence ; embracing an Examination of the climate of certain localities of frequent resort ; and also, an Investigation of the degree of adaptedness of the Pacific Climates of the United States.* Presented to the Medical Society of the State of Georgia, at its annual meeting, held at Atlanta, April 13th, 1859. By WILLIAM HENRY DOUGHTY, M. D., of Augusta, Ga. (Ordered to be printed.)

(Continued from July No. page 471.)

Having thus elaborately presented the meteorological history of this part of our western possessions, we pass from their consideration in detail, to an examination of their applicability, or rather their adaptedness to the consumptive. And in the first place, we will take up the interior. The peculiarities of climate which distinguish this section, might *à priori* have been readily appreciated without a resort to their elaborate exposure by means of its meteorological record, for its inland situation of high altitude, and its own peculiar structural arrangement and conformation, together with its sustentative relationship to neighboring regions, equally peculiar and impressive in their topography, are so familiarly known, and their influence upon climate so accurately and sensibly appreciated, as to point at



once to a state of unadaptedness to the requirements of the tubercular. We remark therefore, that we have associated its notation along with that of California, solely for the purpose of comparison, and not with the view or hope of establishing there a sanitarium for the consumptive; hoping thereby to present the climatic features of this Pacific State in such a connexion, as to insure its correct appreciation. We might have selected other regions, perhaps more eligible, as agents for comparison, but chose to adopt this as showing the entire Pacific climate as a unit, and also that we might inductively recognize the reactions of the climate of the coast, upon that of the interior, and vice versâ. We shall therefore dismiss the farther consideration of this portion of the subject, with the following summary of its climatological characteristics. Its altitude secures to it a light and dry atmosphere, but also brings with it great extremes of temperature; in the winter reducing its temperature sometimes below zero, and in summer, having an analogous extreme of heat. It is not improbable, that the daily thermometrical record, may border on similar extremes, for as before mentioned, while at night the severity of the cold may be such as to form ice, yet, at noon, the degree of heat may be such as to liquify some of the softer solids. The monthly mean temperatures range from  $26^{\circ}.18$ , to near  $70^{\circ}$ ; the mean annual temperature is  $46^{\circ}.92$ ; the possible annual range of the thermometer is  $118^{\circ}$ ; the mean annual quantity of rain is 16.64 inches; winds when observed, were principally from the south and west; about two-thirds of the year is recorded as fair weather; and finally, the occurrence of snow is noted frequently during the cold season.

The climate of California has few parallels, if any, in meteorology. We have just remarked, of those territories interior and contiguous to it, that it is possible to form a correct idea of their climatic conditions, by the study and appreciation of their general topographical conditions, in their obedience to certain general laws; but it would, to say the least, be exceedingly difficult to form any thing like a correct idea of the true climatic features of the State of California, by any such process of generalization. For, if we refer to its mountain features, and study their influence upon the divisions of its climate, we obtain

but an imperfect idea, because that influence undergoes special modification, by the action of special physical agents. On the other hand, if we refer to its coast or sea-shore situation, and endeavor to deduce therefrom its positive climatic conditions, we fail, because the exceptional prevalence of extraordinary currents of the ocean, stamp it with an exceptional coast climate. And again, if we examine it in the light of the probable reactions of the adjacent plateau, we obtain only a partial view, since its own essential peculiarities effectually counter-balance any distinctive impressions from that quarter. The peculiarities which it presents, are the combined result of the action of certain currents of the ocean, upon the particular conformation of the land, and vice versâ; and are not therefore deducible from its general continental arrangements, or any single topographical element, however marked it may be. Hence, in order to understand thoroughly or to form a correct idea of its features of climate, we must ascertain the mode, and the results of the action of these special agents, particularly those results which ensue from the alternate prevalence of the warm and cold masses of water of the Pacific. This feature in the physical geography of the north Pacific, produces a very different action and influence upon the climate of its eastern coast, from that which is exerted by the waters of the Atlantic upon the coast of Europe. For, be it remembered, the waters of the Gulf Stream are always of a certain temperature, which is higher than the ordinary sea-water, being modified but slightly by the ordinary agents, even to its final distribution. Now, having always a particular temperature condition, it can only ameliorate the climate of such places along its course and subject to its influence, as would otherwise be marked with excesses of cold, and rendered perhaps uninhabitable. While to such as already possessed a high temperature, it would only serve to increase their thermometrical condition by the addition of new increments of heat. Here however, instead of the prevalence of currents of the sea, at or about a given temperature all the year round, we find an alternate, but no less specific circulation of cold masses of water in the summer, and of certain warm ones in the winter. These, we feel authorized to say from writers upon the physical geography of the sea, are not one and the

same current, assuming a higher or lower degree of temperature at particular seasons, but are distinct currents, having this special mode of circulation. Why the warm currents prevail in the cold season, and the cold ones in the warm, or the particular source of the two currents, or the cause of the alternation, is not yet determined, we believe.\* Nevertheless, the fact is incontrovertible, that the absolute sea-temperatures in the winter season are warmer than those of the land; and the temperatures of the same in the summer, are colder, than those of the land, and the winter currents. Concerning the attempted analogy of effect, between these currents and the Gulf Stream, it is at once apparent, that no analogy can exist, since the effect upon climate along the Pacific, is altogether determined by the special prevailing current, whether warm or cold.

Again; at certain seasons the influence of these currents upon the climate of this State, is materially increased by its own topographical features. For instance, the conjoined valleys of the interior, forming one of great extent, with their definite and abrupt separation from the coast, by the coast mountains, and from the far interior by the Sierra Nevada, are so completely insulated, that they experience a condition of climate peculiarly their own. During the summer, therefore, when the rays of a vertical sun are poured into them, they attain a degree of heat and rarefaction of atmosphere, which greatly intensifies the natural inflowing of the sea-atmosphere. The observation of the disparities between the interior valleys and the immediate coast, has led to a division of its climate into that of the coast and the interior. Adopting this division, we have next to enquire into their adaptedness, as places of residence for the consumptive. Concerning the interior, we remark that no condition of atmosphere pertains thereto, which could constitute it a place of resort for the consumptive. For during the winter, it is exceedingly damp, and has a foggy, murky atmosphere; during the summer, an excessively heated and dry atmosphere. In consequence of its depth, extent, and particular relationship to bordering mountains, a somewhat confined, and perhaps deteriorated atmosphere also characterizes it, because the free

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\* Perhaps at the conclusion of this essay, we may furnish our own reflections upon these various points.



access of circulating currents of air from other and purer regions is prohibited.

COAST.—If, as was formerly supposed, uniformity of temperature be the controlling consideration in the search for a climate adapted to the consumptive, we think no one can gainsay the fact, that the thermometrical conditions revealed during the consideration of the climate of the coast of California, establish beyond cavil, the existence of a uniformly high temperature. Extreme degrees of cold are prevented from being reached in the winter season, by the circulation of warm waters off the coast, which, by elevating the temperature of their own atmosphere, act as regulators or modifiers of the land temperatures—particularly under the prevalence of the south-west and west winds, which are shown to prevail along this coast at this time:\* the degree of that modification, being in proportion to the intensity of action of the several physical agents. At the extreme southern boundary of this coast, where these agents exert a limited influence, we observe greater variability, than higher up, where they are more active. On the other hand, summer excesses are prevented by the circulation of cold masses of water off the coast, which, by reducing the temperature of their own atmosphere, and the subsequent wafting of the latter towards the heated interior, lowers the temperature of the coast, to a moderate stand, and preserves it at a uniform degree, until in their turn, they are supplanted by the winter currents. So marked is the effect, in the regulation of the temperature, that even the spring and autumn, characterized throughout the great Atlantic plain by changeableness and variability, are rendered gradual and uniform in the rates of advance and decline of their individual months, show a high mean temperature, and exhibit in the monthly ranges of the thermometer, far less fluctuation, than is found in many situations more highly thought of. But, as has before been stated, we are not to consider the influence of any particular condition of the atmosphere or climate abstractedly, but their several conditions connectedly and in association with each other. For notwithstanding its thermometrical conditions are so favorable, being embraced within narrow

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\* The north-west wind would also contribute more or less to this effect. It will be remembered, that this wind is often observed at San Francisco.

limits, yet if associated with too great relative humidity, the effect produced upon the human system, may be totally different from that which would at first appear. We must, therefore, enquire into the probable degree of its humidity, and after that, notice the effects of its association with this particular temperature condition.

We cannot avoid the recognition of the common fact, that the coast is generally more humid than the interior, more particularly where the general atmospherical circulation is towards the land. At first blush therefore, we should expect to find the coast under consideration very moist, but as we have despaired of finding a suitable climate in the interior of countries, where less dampness exists, we are compelled to select such coast climates as are comparatively less damp, than the general rule would signify. Under this view, we hope, from the modification which the general climatic laws undergo here, by the intervention of so many physical agents, to show that no violation of our theoretical climatology of consumption, would be committed, by suggesting some places along this coast. Certainly if the various islands of the ocean, and the State of Florida, whose ample resources for the generation of moisture are co-equal with their geographical extent, can receive élat and praise at the hands of the profession, we may claim some degree of regard for this part of the Pacific coast, whose facilities are far less, and whose mean temperatures are more uniform throughout all seasons. It can derive moisture only from two sources, namely, the fall of rain, and its transfer from the ocean; the degree of which in the former case, is dependent upon the amount of precipitation, and the retentive power of the soil. The latter, however, constitutes the principal source, for the general structure does not admit of a retention, but favors, we believe, an easy disappearance, and besides, the amount of precipitation is comparatively small. The actual amount, or rather degree of moisture transferred from the ocean, it is impossible to state, since it can only be approximatively determined even by actual measurement with the hygrometer. Measurements of this character have not been given in the meteorological reports heretofore made, the various officers engaged in taking the observations, not having been furnished with suitable instruments

until recently. As a consequence of this fact, the best efforts at forming or establishing a practical climatology, for the consumptive, as well as for all others demanding attention to this point, must be more or less problematical, if not defective. It is at present, however, a pleasing gratification for us to know, that at least so far as the climate of our own country is concerned, this feature in its meteorology, will no longer be neglected or withheld, since both the medical staff of the army, and the Smithsonian Institute, that great patron of science, have adopted such measures as will surely result in its full accomplishment. That the atmosphere along the Pacific coast is moist, will not be denied, but that it is injuriously so, may very reasonably be questioned, for there are some circumstances which militate against such a supposition. Just here, the testimony of Mr. Blodget may be usefully employed; while pointing out some of the differences between this entire coast and the west of Europe, he uses the following language.\* “This coast atmosphere, though of low temperature, does not appear to be as humid as that of England and France, notwithstanding the large quantity of sensible moisture, fog or mist, on the sea-winds at San Francisco. Below or south of the Columbia River, it is mainly *dry and bracing at all seasons*, or the general climatological effect is such, in contrast to that of Sitka, where the saturation is excessive and the quantity of rain like that of Burgen, in Norway. The low temperature southward, is a single and distinct condition, as it appears; and if it were removed, the whole coast would much more nearly correspond with that of Europe, where, as along the west of Spain and of Portugal, *the prevailing features for this season are dryness and serenity*.” “The coast south of Vancouver, is iron-bound, in technical phrase, with a few indentations or deviations from a right line to add to its amount of exposed surface. For these reasons the *sea influences* are of *less importance*, or *penetrate less than they otherwise would*, and these points of identity with other districts, remain but little known.”

Again; as perhaps might be expected, a more sensibly humid atmosphere is found in the summer season, such at least, seems to be the conviction of writers upon the subject. “The most remarkable phenomena of weather there, are the summer

\* See Blodget's Climatology of the United States, page 195.



coast wind and its attendant mist. This seems to be due solely to the proximity of districts of great heat and sudden rarefaction on the land, to the cold mass of waters off this coast, and to its refrigerated surface atmosphere." "The attendant mist is peculiar, and it is evidently a condensation produced *by contact of the cold air alone, and not by natural condensation in the volume coming from the sea.* The air out at sea is usually clear, and the mist only forms a narrow rolling line along the place of contact of the volumes differing so widely in temperature. Any cold jet of air intruded into a mass having a high temperature, will produce a similar condensation."

Finally, at this point, Mr. Blodget quotes from Dr. Gibbons, a part of which quotation, we here transcribe, as illustrative of the real amount of humidity during the day. "The sun shines forth," says he, "with genial warmth, the mercury rising generally from 50° at sunrise, to 60° or 65° at noon, but when the sun has reached the zenith the wind rapidly increases, coming down in gusts from the hills which separate the city from the ocean, and often bringing with it clouds of mist. But the *\*dampness is never sufficient to prevent the elevation of clouds of sand and dust* which past through our streets in the most lively manner."

But again; even admitting for the sake of argument, a state of great humidity, the degree of influence exerted by it upon the well and the sick, must be greatly modified, because of the peculiar temperature with which it is associated, and also the degree of circulation of the atmosphere. At most places, such a temperature is observed as adds to and materially aids in the injurious effects of humidity of atmosphere upon the system, either by enfeebling the nervous energies, or by over-stimulation of them; but here, it is so mild, moderate and uniform, that it rather retards and opposes a hurtful influence from the dampness. It is neither a hot nor a cold climate, but occupies a medium position between them, so that it serves to excite to the requisite extent, all the vital functions of the body, thereby exalting the same to such a state, as would enable it to resist successfully, perhaps, the otherwise bad effect of associated moisture. The degree of circulation of the atmosphere, also tends

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\* The italics are our own.

to limit the effect of a condition of great humidity, for it prevents the complete saturation of the strata of air in the immediate vicinity of the body. Along this coast, the force of the winds is sometimes considerable, and is at all times sufficient to prevent even an approximation to that state to which we have just alluded. Taking the most unfavorable view of the various associated states, we remark, that their effect must be markedly different and far less injurious, than those places which we have examined as the favorite resorts, with their excesses of heat and cold respectively, and their superadded humidity.

The moderately stimulated vital secretions would be neither too abundant nor too scanty; neither too rapidly dissipated nor too greatly retarded; the exhalation of carbonic acid unimpeded; the respiratory acts without disturbance, while the activity of the muscular and nervous structures would be maintained at a desirable point. Finally, the practical influence of the Pacific climate upon the animal system, is well delineated by the author, from whom we have so often quoted. "The elastic atmosphere and bracing effect of the Pacific climates, constitute a striking difference from those of the Eastern States. Whether due to the *absence of humidity* alone is not clear, but to *whatever cause* it is a *notable practical feature*. The interior valleys where the heat is excessive, are similar to the *cold coast also*, and there is *no climate which is not the reverse of enervating*, in its whole extent. It has generally been held that this distinction has its origin in the quantity of atmospheric moisture attending the heat, and this is probably true for the most part, and particularly so of the eastern United States. If, as before stated, the moisture of the sea-air on the Pacific is relative rather than positive, or is developed by the contact of great extremes of temperature, the whole may be taken as more dry than it would at first appear to be, and its uniformly bracing character will not be difficult to account for. *As it is, all residents concur in pronouncing it more favorable to physical and mental activity, than any they have known, from whatever quarter they come.*"\* "There has yet been no competent observer on the spot, who has taken up this point and has analysed the singularly invigorating elements that prevail along so great a range of habitable coast.

\* Blodget's *Climatology of the United States*, pages 200 and 201.

Nothing is clearer than that they are present in unusual measure, and *perhaps they are due to the low summer temperature, concurring with a minimum of moisture, and with the peculiar state of this minimum quantity.*"\*

Since we commenced investigating the climate of the Pacific slope, we have seen the following statements in reference to it, in the American Journal of the Medical Sciences, made by Dr. Henry Gibbons, in his annual address before the San Francisco Medical Society. "A few years ago," he remarks, "it was supposed that the climate of California was almost proof against pulmonary disease. In 1850, if an individual happened to cough in church, all eyes were turned on him with curiosity and amazement. The native population, it was said, were entirely exempt from disorders of the lungs. But time has dispelled the delusion. Pulmonary consumption and the kindred affections have become the great enemy of human life, as in the Atlantic States. Our entire climate everywhere is less injurious, it is true, to pectoral disorders than the corresponding latitudes in the Atlantic. But, the cold and searching winds of the summer on the seaboard, while they often build up the strength by their bracing and tonic powers, are in general unfavorable to patients suffering from the class of maladies under consideration; and the extreme heat of the interior is equally noxious, from its debilitating influence. The relation of our climate to this class of diseases may be summed up in a few words. Persons afflicted with bronchial or pulmonary disorders, in the incipient stage, are almost invariably benefitted, and oft-times cured by traversing a tropical climate, and taking up their abode in California. On the other hand, such diseases are developed ab initio in this country, about in the same degree as in the Atlantic States. As the female population increases, the bills of mortality exhibit a corresponding increase in the number of victims." "Some years ago, it was a general practice to send pulmonary cases to the Sandwich Islands. But experience has shown its futility. We stand in need of some other sanita-

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\* We have not hesitated freely to extract from this author, because the superior advantages which he must have enjoyed in the examination of the meteorological records of the various departments at Washington city, entitle his opinions to the greatest respect and authority.



rium. In many cases, change of climate is the only remedy; and a genial climate, not liable to sudden or material fluctuations, and exempt from strong winds, are requisite conditions. In the summer season, the region bordering on the Bay, at its northern and southern extremities, may serve the purpose, holding as it does, a medium place between the damp and chilly ocean climate of San Francisco, and the arid and scorching heat of the interior. In the winter we must turn our attention to the south. Los Angeles and San Diego, in the southern section of the State, are still too far north. The table-land of Mexico will probably supply the desideratum. But even in Mexico, proximity to the ocean must be avoided. Twelve months ago, in a brief stay at Manzanella, which is on the western coast, in latitude 19°, I observed among the native population, an extraordinary prevalence of pulmonary diseases, caused, in all probability, by their sleeping on the damp ground, exposed, more or less, to the cool night wind. Sixty or seventy miles inland, in the vicinity of Cotima, is a different climate, said to be much more salubrious. With all the knowledge I now possess upon the subject, this spot appears preferable to any other, and accordingly I have lately recommended it to my patients, instead of the Sandwich Islands. This subject, however, deserves much more consideration, than it has yet received."

It is not a little singular, that, at the very moment almost, at which we are endeavoring to bring to the more favorable notice of the profession, the climate of this State as a sanitarium for those afflicted with pulmonary consumption, and that too by an elaborate exposure of its entire meteorology, as handed to us by direct instrumental observation, we observe the same enquiry engaging the minds of the profession there also, and their convictions leading them to search still farther southward and westward. We cannot, however, say that we feel in the least intimidated, or deem our positions any the less tenable, for "facts are stubborn things," and figures cannot mislead. And as those facts were obtained by observations at the place of dispute, by persons fully competent to the task, and have since undergone generalization by others equally competent, by whom they have been sent forth to be embraced as such, we feel justified in questioning the authenticity and accuracy of all other observa-

tions, that may tend to invalidate them. Whilst therefore, we may be allowed to express our astonishment at the positions assumed by Dr. Gibbons in the face of the meteorological record of the coast, yet we would not be understood as asserting that they are entirely erroneous, for future and a more extended consideration of the subject, may demonstrate some objection not yet brought to light. But, notwithstanding the object of the writer is to fix the impression, that the climate of this State is not beneficial to this class of patients, yet we think that much may be gleaned from the above extracts, which tends to strengthen the suggestion thrown out by us—that of its possession of such meteorological conditions, as are not unadapted to the consumptive. For it seems that the supposition had obtained, that “the climate of California was almost proof against pulmonary disease.” Indeed such was its strength, that it amounted to a positive belief or conviction, since the simple act of coughing by an individual during public worship, at once placed him in a conspicuous position, and excited “curiosity and amazement” in the minds of those, with whom he worshipped. Furthermore, even tradition itself, with its mystified records, served to fix deeper this impression, for the native inhabitants were said to have been “entirely exempt from disorders of the lungs.” This supposition, doubtless based upon the tradition of the past, and the observations of the earliest emigrants to this country, assumes far more than we dare do, for it will be observed, that the idea advanced by us is, not the capacity of the region to prevent the development of pulmonary disease in general, nor of pulmonary consumption in particular, but its failure to present those elements of climate, which have been elsewhere seen, to favor the supervention of the latter, and which have justly been recognised as effective agents, in the ripening of the cachectic diathesis, by those who have investigated the relations of climate to this disease. So far from regarding this climate as proof against pulmonary lesions in general, we would expect to find bronchitic, catarrhal, and pneumonic affections quite prevalent, for the reason, that the coolness of its nights, with the common exposure of the inhabitants to them, especially in the wet season, would rather predispose to affections of the mucous membranes, from which that of the res-

piratory apparatus and of the air passages generally, would not escape. Even in the summer, especially to those who have removed thither from the Atlantic States, where the divisions of seasons are sensibly different, with their accustomed disregard of exposure to chilling influences at night, these affections might be looked for.

Again; following the remarks of our author, we observe in the sentence immediately following those to which we have alluded, what appears to be an ambiguity, for after speaking of disorders of the lungs in general, he here particularizes "pulmonary consumption and kindred affections," as the great enemy of human life, in this State. Does he mean by "kindred affections," all the other lesions of the respiratory apparatus, or the general list of cachectic, scrofulous diseases? Certainly all of the numerous diseases of the pulmonary tissue or organs, are not kindred to tubercular consumption. Nay more, the existence of these various other lesions does not entail the necessary existence, also of consumption, although where the predisposition to it, is strongly marked, other things being equal, they may, and do sometimes hasten its development.

But this writer, in summing up the relation of this climate to pulmonary diseases, fully justifies a reasonable expectation of benefit to be experienced by a change of air to this region, to those who are in a condition to remove thither. He says, that "persons afflicted with bronchial and pulmonary disorders, in the *incipient stages* are *almost invariably benefitted*, and *oft-times cured* by traversing a tropical climate, and taking up their abode in California." Still he would have you understand, that "such diseases are developed ab inito in this country, about in the same degree as in the Atlantic States." Does not this remark favor the suggestion, which we have made, after a careful examination of the record of its meteorology, that benefit may not unreasonably be expected? For such as he declares to be "almost invariably benefitted," comprise the only class, who could possibly undertake the journey, or could hope to be benefitted by change of climate at all. So far as the effort to counter-balance this, by a reference to the ratio of its primary development among the inhabitants, is concerned, we remark, that there are some circumstances, which, when taken into account, lessen ma-



terially the degree of importance to be attached to the observation, and in fact to all similar and kindred observations, not only up to the present time, but for some years to come. For the very conditions under which this State has become thickly settled in a short time; the causes of the rapid emigration, among which we would specify the inordinate stimulus to commercial enterprise; the general habits of the emigrants; the character of the lives which they lead; the hardships endured by them, and the necessary exposure undergone in the pursuit of their objects; their condition of mind, that of frenzied madness for gold; their utter disregard of the rules of hygiene; the wildness of their speculations; their constant anxiety and endeavor to find other and more enriching fields, as was evidenced in the heedless emigration to Fraser River; their continued state of excitement, as was painfully manifested during the late usurpation and reign of the Vigilance Committees; their immorality and dissipation; and finally the mortification of a defeat of purposes, and the crushing disappointment of large anticipations, have only administered to the production of such diseases, as manifest themselves by derangement of the organic, nutritive processes of the body. It is not astonishing, that a greater proportion of phthisical cases are observed now than formerly, because, during this period of confusion and excitement, the system, with the seeds of the disease in many cases already sown, thus stimulated and taxed to its greatest energies, appeared to contend successfully against these numerous agents; but now, that the public mind is becoming more quieted, and the consequent depression from this former artificial state of stimulation is taking place, the system becomes an easy prey to those influences, which have been working gradually but perseveringly for its destruction, and readily succumbs to those perverted vital processes, the result of former indulgencies. Hence it is, that the delusion spoken of has been dispelled. Hereafter, however, as the mental and moral condition of the inhabitants becomes more quieted and improved, and the sins of the past shall have been atoned for, it will perhaps be found that the climate does not so readily engender those vices of nutrition, as might be inferred from the remarks of Dr. Gibbons. Moreover, our readers cannot fail to perceive, that the numerous predisposing and ex-

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citing causes, which we have mentioned above, are of themselves sufficient to develop if not to beget the predisposition to pulmonary consumption, independently of any special unadaptedness of the climate.

Passing next to a review of the second paragraph of our author, we are again startled at the revelations of the character of the climate. "In many cases," says he, "change of climate is the only remedy; and a genial climate, not liable to sudden or material fluctuation, and exempt from strong winds, are requisite conditions." The intimation clearly made here, is to the effect, that this climate is a prey to such unwholesome conditions. Now we had thought, and certainly we are justified in the belief, that the coast of this State, at least, was almost entirely free from "sudden or material fluctuations," in the sense in which those terms are used, as applicable to the eastern United States, and possessed to an eminent degree a genial climate. The Army Meteorological Register, contains observations taken along this coast, and if our understanding of them be correct, they forbid the apprehension of "sudden and material fluctuations" of temperature. Even previous remarks of Dr. Gibbons, are somewhat calculated to sustain this criticism, for he says, that, "so little difference is there in temperature between winter and summer in this wide range of coast, that flannel garments are constantly worn, and no one thinks of changing the dress from winter to summer."

We ought to remark, however, that the Register does not contain the daily fluctuations of the thermometer, inasmuch as the general monthly record is sufficiently minute to enable us to appreciate perhaps correctly, the amount and degree of fluctuation incident to this coast. In our arrangement, we have endeavored to bring to light, almost every feature at all calculated to show the vicissitudes of this climate, having preferred rather to use the negatively proved fact of its mildness and uniformity, than to follow the usual course of writers, by commenting upon the positive signs: for under the circumstances, strong negative evidence amounts to positive proof.

Again; this gentleman, while he thinks that a place of residence may be found here for the summer season, totally disregards the idea of a winter residence; for places "in the south-

ern section of the State, are still too far north." To this, let the limited range of the thermometer; the regulated temperature of the succeeding months; the general range of the mean temperatures; the mean of the monthly maxima and minima; the high monthly mean temperatures; inshort, the great moderation of temperature observed in every respect, reply. Surely as represented by these various conditions, the climate is incomparable to most other regions, much farther southward. These features of uniformity, high measure of temperature, and freedom from extreme fluctuations, are unmistakeably shown, as true of that part of the coast about San Francisco and Monterey. Finally, this writer, after attempting to show that this region will not do as a place of resort for the consumptive, concludes after a limited search farther southward, that probably the table land of Mexico will be found to "supply the desideratum." For ourselves, we cannot see in the climate of this region, any circumstances, which would lead us to look here for a sanitarium, for notwithstanding it has been styled "a temperate region in the torrid zone," yet its general climatic features are too stern for persons of weak habits. Viewing the entire republic of Mexico, we are free to assert that we are unable to divine a suitable place for the phthisical, in either of its three divisions, the *tierra caliente*, *tierra templada*, and *tierra frigida*. For the first, with its sultry and poisonous atmosphere, the second, with its excessive humidity, and the third, with its sternness and frigidity, are alike unadapted.

Again, we may call to our assistance the writings of Mr. Blodget, which clearly express the ideas, which we have sought to impress throughout this paper.

He says,* that, "the arid climates of the interior, and the cool Pacific coast, have been occupied so recently, and so little observed, that it is difficult to trace the climatological geography of disease there, but enough is known to decide that malarious diseases are comparatively rare, and that their antagonist forms as observed in the eastern United States, or the pulmonary class, are almost unknown *from California* southward."†

"Humidity is an essential element of each, and in its absence,

* Climatology of the United States, page 460.

† The Italics are our own.

“both disappear from all districts when the temperature is high enough to develope malaria.” “Over the whole interior and Pacific region, these affections, (respiratory diseases,*) will be little known, and in *southern Culifornia, the climate is far superior in this respect, to any part of Italy. Equable in temperature, and, at the same time extremely elastic and dry, it cannot generate respiratory diseases.*”

“Of admissions to the city hospital, San Francisco, for nearly two years, August 7th, 1851, to July 1st, 1853, there were 84 in a total of 1,870 belonging to the respiratory class. Of these, but 11 were of consumption,—45 per thousand of all, and 5.8 per thousand of consumption. It is believed that the cases of all diseases of this class originating in California, will not reach 4 per cent, in the number of deaths, and will thus stand at less than one-third of the number in the eastern States.” Again; “geographically the diseases of the respiratory organs of which consumption is the chief, have their maximum in New England, in the latitude of Boston, and diminish in all directions from this point.” But “the *absolute minimum* for the continent in temperate latitudes, is in *southern Culifornia.*”

The winds that blow along the coast of California, are those which are commonly recognised as most conducive to health, and especially to such invalids as are subjects of pulmonary consumption. † “Moist and cold air favors the coming on of tuberculous disease; and hence living on a sea-coast, with an easterly marine exposure, is very injurious. Less inconvenience is felt with a western and southern exposure, which is deemed to be rather sanative, and to offer to the patient the best prospect for restoration to health.”

Again; ‡ “south winds are highly ozoniferous and probably on this account, produce catarrhs and bronchitis. They soothe and allay a dry and irritable condition of the mucous surfaces of the air tubes and cells, and greatly alleviate the sufferings, and indefinitely prolong the existence of the phthisical patient.” It

* The Parenthetic sentence is our own, as also all of the numerous succeeding italics.

† Bell & Stokes's Practice, page 252.

‡ See American Journal Medical Sciences, vol. lxxviii, page 146. Review of Pickford on “Hygiene or Health, as depending upon the conditions of the atmosphere, etc.”

is possible however, that the strength of the winds, which blow along this coast, may be, to some extent, objectionable at certain seasons, but we cannot say, that they are so at all times. Exercise in the pure air, may be freely engaged in, for, as a general rule, the number of fair days exceeds the cloudy and rainy days. Even at San Francisco, where the number of fair and cloudy days are nearly equal, this principle of hygiene is not violated, for the proportion of cloudy is about two and a half times that of the rainy, so that free exercise is not prevented.

Finally, what classes of disease are most prevalent here? "Epidemics are of rare occurrence in this State." Dysentery and diarrhoea formerly "were prevalent, and extremely fatal." But at present, under the improving social condition and habits of the inhabitants, they are fast disappearing. Limited epidemics of cholera were experienced in various localities, in 1850-51, although "Sacramento was nearly depopulated by it." Influenza, croup, scarlatina, and diseases of the urinary organs are also met with, the first of which sometimes manifests itself as an epidemic. "Insanity, as might be expected, is fearfully prevalent in California." "Fevers, to which the dubious term malarious, is conveniently applied are scattered every where, in city and country, and are often endemic in certain districts."

In conclusion, notwithstanding most of the essential conditions of a climate for the consumptive, have been complied with by this State, namely, a relatively high and uniform temperature, limited ranges of the thermometer, freedom from great non-periodic extremes, a moderate dew-point, and abundant facilities for the exercise of the physical man, and also diversions for the mind, yet much more observation is necessary, before it can be adopted as the desired place for such. We stand greatly in need of correct mortuary statistics, not such as are found in the census reports, for they are entirely too loose and indefinite to be reliable. In order to demonstrate the true relationship of the climate to this disease, they must be such as are deduced from the actual number of deaths among the native and resident population, and not from the reports of mortality at army posts, or among the migratory and transient part of the inhabitants. These latter constitute a frightful source of

disease of all kinds, and form the basis for an incorrect apprehension of its climatological geography. They must be excluded especially from any calculation, purporting to exemplify the proportion of phthisical cases. Another source of error is found also among that class of the inhabitants, whether transient or permanent, who, by their disregard of hygiene and exposure to all sorts of debilitating influences, both moral and physical, seem rather of themselves, to force its production in apparent defiance of the climate. That class then, which should and must form the only true basis for an exposition of the relations of climate, to the production of phthisis, becomes reduced to a small portion of the inhabitants. These are alone to be found among those, who give the necessary attention to those imperious prophylactic and hygienic measures, which are universally recognised as necessary to the health of the vigorous, and whose moderation and freedom from excesses of every character, both physical and mental, throw the burden of its production upon the climate. Until these distinctions are observed in the mortality statistics of this disease, it is plain that they are defective, since they only prove that the climate cannot avert the effect of causes, which are totally independent of it. Such statistics, as have been published, showing the number of deaths from consumption in California, are in the highest degree objectionable, because they embrace all of the defiant and incongruous elements which we have just mentioned. Persons from all classes of society, and from all countries, make up its motley population, and constitute the chief part of those who form the objectionable parts of society.

ARTICLE XVIII.

An Essay on the Nature and Treatment of Cholera Infantum, read before the Medical Society of the State of Georgia, at its last annual meeting, held in Atlanta, April 13th, 1859, by H. W. DESAUSSURE FORD, M. D., Prosector to the Professor of Surgery, in the Medical College of Georgia. (Ordered to be printed.)

THE subject of this Essay, Cholera Infantum,—as originally induced, or rather, commenced during dentition,—was chosen, not as more full of interest, or more novel, than many others,

but as one whose pathology, to the *vulgus*, is somewhat vague and obscure, notwithstanding the labored, and extended views of a host of investigators. If the interpretation of its pathology shall differ *immaterially* from the generally accepted one, still the desire shall be strong, to suggest a different *treatment*, which treatment, from observation of its efficacy, shall recommend to Practitioners, the adoption of a pathology lately disclosed, and also be urged as an argument to disparage, not only the usual treatment, but the generally accepted pathology also.

Infancy is the most critical, most susceptible, period of existence; all the organs are in a state of unceasing development and growth, each dependent on one another, different parts sympathizing, extensively. If such mutual communion and interchange exists, then how certainly must the suffering of one particular organ, or even local disease, extend itself, insinuatingly, through the whole economy. If this developing, growing organism is attacked by morbid causes, the effects escaping the vigilance of attendants, how disastrous, when we think, that "disease not merely disturbs the present, but its influence reaches to the future; it not only interrupts the present function of the organ affected, but puts a stop, for a time, to the completion of the general machinery of the body, or disarranges the due proportion of one part of that machinery to another."

The particular period, most critical with these little ones, is dentition, which comprehends the great, and important changes, which take place in their organisms. The mere mention of the disease horrifies mothers, who imagine it very painful, rapid, and always fatal, when not necessarily is it either; the infant may be subjected to most profuse discharges—a striking characteristic of the disease at its onset—lingering for many days, without succumbing; but certainly, from this draining off of the fluids, each day the tone of the system is impaired, each moment crying out for prompt and energetic treatment. The ignorant think infancy is a period peculiarly prone to frequency of discharges from the bowels, without any immediate impairment of health, and hence physicians are often ushered upon cases, especially among the poor, which discover to him extreme debility and deplorable emaciation. While they have to contend against these indiscretions in the parents delay, they are yet ex-

pected to check these excessive flows from the alimentary canal, as well as, oftentimes, uncontrollable micturition, and are often persuaded, by the anxious solicitude of these parents, to administer opiates immediately.

During the past summer, I treated eight children, who had Cholera Infantum, all of them teething, and notwithstanding the swollen gums were scarrified successfully down to the offending tooth, the symptoms continued, five of them arriving at a state of almost exhaustion. Here, then, are eight cases which I followed up, the treatment having been at first, on the old plan, because they were intended to afford a subject for thought, and experiment. Induced to counsel with a friend of more experience, early in the season, on this subject, he suggested a treatment which was adopted, it seeming to answer the demands of an adopted pathology. In passing, it may be stated, the treatment was successful except in one case, that case, seen the first time, showed indications that the little one, was "*in articulo mortis*."

Discussing the etiology of the disease, Dr. Eberle quoting the the following from Dr. Condie: "a majority of the children fall victims to Cholera Infantum, in the neighborhood of marshes, or in low, wet, or otherwise unhealthy situations," says: "this, I apprehend, will not be confirmed by the observation of those who practice in the neighborhood of paludial districts." As if searching for a contrast, that gentleman commences his next sentence thus: "*Unquestionably*, Cholera is much more common, both in infants, and adults, in such localities, than in high and salubrious parts of the country, and there can be no doubt that miasmata have a considerable tendency to favor the occurrence of cholera, whether in adults, or in infancy." While the object of this essay, is intended to dwell, more especially upon the diarrhoea, and other excretions in Cholera Infantum, it may be interesting to state, directly in this connection, that five of the aforesaid cases, were surrounded by intermittents, their own homes situated upon, or near, the banks of a canal, such localities noted for being asylums for paroxysmal fevers. There was certainly in each case, an unequivocal paroxysmal feature, leading me to believe, though originally induced by the irritation of a tooth, yet the disease was signally aggravated

by this very malarious influence. Mr. Eberle continues to argue; "if, however, Koino-miasmata be the principal agent concerned in the production of this malady, why is the disease so exclusively confined to a particular period of infancy in our cities? and why does it commence so early as the latter part of June, and usually acquire the most extensive sway in July?" Now few have advanced the opinion, that the disease is *principally* induced by miasmata, yet acknowledging the period of *dentition*, the one most prone to its ravages, nor has it been established that the disease attacks so *universally*, in the *early* summer months, as Eberle would suggest; for, most of our cases occurred in the latter part of July, continuing into August, our hottest and most sultry months; months true, whose atmosphere is charged heavily with this mysterious miasm.

While confessing that miasm does exert an influence over the disease, I would be doing my established opinions injustice, to think, with some, it was the sole cause of the affection, especially since the *period* of existence, has been so certainly marked as above, and before all others, the one for its development. It is by no means unusual, to see this febrile excitement continue, after we are confident the irritation, at the gums, has subsided, which, doubtless, is the first cause of the symptomatic fever, as well as the excretion from the bowels, and this excitement continuing, too, in a paroxysmal form, as before suggested.

At one time, the disease was thought peculiar to this country; but it is developed in all climes, from the most salubrious to the most foul, and pestilential; notwithstanding, however, this apparent impartiality, it is most prominent and fatal, where there is high atmospheric heat, with vitiated condition of the atmosphere, as instanced by its prevalence in our large cities. "At that period of life, to wit: primary dentition, to which the disease is almost exclusively confined," says Gholson, "the physiological development of the digestive organs, in order to prepare for the change of the food in the organism, which the now rapidly developing process of dentition admonishes to be near at hand, is so rapid as to amount almost, to a pathological condition." "This rapid nutrition and growth, seem to be directed, especially, to the glandular or follicular apparatus; the morbidly excitable condition of these follicles, and, indeed, the diges-

tive mucous membrane, generally, is so strikingly at this period, that, taking an *à priori* view alone, we should naturally expect choleraic affections to be frequent at this period, and that those causes which are capable of producing them, at other periods of life, would, *a fortiori*, produce them now."

The disease commences with diarrhœa, eventually resulting in violent purging and vomiting—the irritability of the stomach sometimes, with the looseness of the bowels, oftener, at a later period. Thin, watery evacuations, curdled often in their consistence; usually greenish in color; sometimes yellow, or of a mixed color, and in the latter stages, evident traces of blood. Unsatisfying thirst, which aggravates the disease; much heat of surface, except in cases of exceeding prostration; pulse somewhat accelerated, but natural respiration; pain and tenderness of the abdomen, on pressure; great loss of muscular power, with sunken eyes, and progressive emaciation; little or no marked fever, except when it attacks the brain, or some other organ, or complicated with paroxysmal fever. There is very great diversity at different periods, in the color, consistency, and nature of the dejections; thin, watery, and profuse at first, then greenish, then more or less bloody as the disease advances a fatal termination; very frequently profuse micturition. Close watching will satisfy the attendant, that there is a very decided periodicity in these vomitings and purgings. "The onset of the disease, may be sudden and overwhelming. A child will go to bed apparently well. Its mother will be awakened in the night by its cries and vomiting; and when a light is made, will find it drenched in those profuse watery discharges, which have been poured out from its stomach and bowels. These discharges continue irrepressible, and when morning dawns, she can scarce recognize, in the pale and haggard aspect, the shrunk and collapsed features of the dying infant, the rosy-cheeked, bright-eyed babe, she had, ere now, hushed to sleep with so much seeming promise of health."

"In the Southern and Western sections of this country, says Gholson, there is still another type of this disease—that type which results from its being complicated with the prevailing fever of the country in which it occurs." Five of the cases, before mentioned, I think, were such as suffered with such compli-

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cation, viz: Intermittent Fever, which was prevailing in their midst.

"The Hepatic pathology was, at one time, applied to this, as indeed to almost every other disease in the southern country. The absence, however, of any constant lesions in the liver, prove very conclusively, that those functional disturbances in this organ, which we frequently observe in this disease, are generally sympathetic of the gastro-intestinal disease, and play a secondary and subordinate part in its morbid phenomena. The only essential pathological element \* \* \* is clearly, and confessedly, the follicular affection, and the only question, at the present day, connected with its pathology, is as to the nature of this follicular disease," which, I think, is a mere disease in the nutrition and secretion of these follicles, for "the irritation may be transmitted from the gums, through the *ganglionic* system of nerves, to the various vascular organs, as the lungs and liver, and secretory surfaces, and the gastric and intestinal mucous membrane—giving rise to congestions in the one case, and excessive-secretion, diarrhoea and Cholera Infantum in the other." In the Southern Medical and Surgical Journal for 1850, in an article by Professor Campbell of Augusta, we find the following: "We have now glanced sufficiently, we think, at the Anatomy and Physiology of the Sympathetic System of Nerves, to make application of such points as are pertinent in the solution of our pathological problem. In its anatomy we have seen its connections with all three of the branches of the fifth nerve by ganglia, the connection of these various ganglia with each other, as well as with the cerebro-spinal axis, and lastly, the distribution of branches from these ganglia, which are connected by the arteries into every part of every one of the splanchnic viscera; in its Physiology we find it in entire charge of the important functions of nutrition and secretion, and, that wherever these processes are effected, it is by the agency of this nerve, alone upon the blood vessels." Accepting this view of the intimate and close connection between the fifth pair, sympathetic and cerebro-spinal axis, we can readily understand the rationale of Eberle's treatment—he says: "within the last four years, I have not treated an instance of this complaint—viz: Cholera Infantum; in which I did not at once apply blisters behind the ears, and,

in most instances, with unequivocal advantage." Professor Campbell continues: "we are all aware that nearly the whole of the intestinal canal, or rather, that portion between the stomach and lower part of the colon, receives no direct innervation from the cerebro-spinal axis, but is entirely dependent upon the sympathetic nerve for its supply of nervous influence, of whatever kind it may enjoy, whether motory, sensory, or secretory, and, consequently, an impairment in the function of this nerve, must, necessarily, correspondently alter its condition. The alteration in these functions, would, of course, depend in a great degree, upon the amount of impairment in the source of irritation. Thus, as we have seen, if the supply be entirely cut off, the functions of the arteries seem, in a great measure, to cease—passive congestions occur, and the parts inflame and ulcerate. Now we can also very naturally conceive of a condition of these nerves somewhat analogous to the above, yet intermediate between the entire interruption, caused by section and perfect health—a condition of embarrassed or perhaps, exalted innervation. This intermediate condition is exactly the state which, from the developments of the foregoing investigation, we feel that we are authorized to affirm, is that which recurs as the result of severe dentition, and that upon it is dependent the whole train of intestinal morbid phenomena observable during this process. The irritation at first produces simply an exaltation of the innervation of those secretory surfaces, and, consequently, secretion is more active than normal, producing simple diarrhœa."

I have been led to interpret this disease as one of Atony, the mucous follicles becoming, so to speak, exhausted by the constant excited secretory action, and unable in such weakness and debility, to establish their normal functions, they call for Therapeutic aid. If we then consider it as one of Atony, as well as febrile excitement, even with inflammation—for there is such in these mucous surfaces during the latter stages—and maintain with Gholson, that the Hepatic pathology, though not positively absent, yet occupies a *subordinate* influence, our treatment will be directed accordingly. Without any consultation with Medical works on this point, except to deplore the promiscuous and frequent use of mercury, I hesitate not to recommend a treat-



ment. In this connection, I may say: if this liver which does not *seem* to perform its function from the thin, watery, colourless dejections, and this same organ does not present any anatomical lesions, and it is not the original cause of the disease, what the necessity, or warrant, for dosing the sufferers with the mercurial preparations; certainly it cannot be to cloak ignorance, and certainly its advocates cannot, in this age, think the liver and its secretion of bile, the *governor* of this intricate, wonderful engine, man! Besides—suppose black stools do appear, is there any warrant that such blackness does not depend upon an admixture of blood, which has been excited by this excess of bile washing over these tender mucous tubes?

It was stated in a former connection, that I practiced an approved treatment, viz: Paregoric or Laudanum, and Hydragryrum cum Creta, night and morning, and that the patients were discharged after a day or to, apparently convalescent, this convalescence, however, proved spurious. Being recalled, I discovered the children equally, if not more so, enfeebled by a second, sudden, aggression of the disease. I recommend as a good plan, as far as my individual success is concerned, as well as scientific reasoning, the following treatment: Sulp. Quinine and Sulp. Iron, half grain of the former, and quarter of a grain of the latter, three times daily. Besides a mixture of this kind, I give sometimes, three doses of the Quinine, commencing early in the morning, giving one dose every two hours. The reasons for giving the Quinine are obvious, viz: as being the panacea in all cases of febrile excitement, and as relieving congestions, and inflammations, for, says Dr. Robert Campbell of Augusta, in his published Lectures on Dysentery, "Quinine acts upon the vascular tissue, to give it tone and contractility."

The Sulp. Iron is used as a tonic as well as styptic. Lime-water, Camphor water, and Bicarbonate Soda, were used freely, when there was excessive vomiting; also mush poultices with mustard over the epigastric region.

I may add here, that on January 22d, of this year, I was called to see an infant eighteen months old, who had every symptom of Cholera Infantum. When I saw her, 12 M., she had had persistent vomiting and five dejections, since 8 A. M., represented as profuse, thin, and watery. The child had not all of

her teeth, yet the gums were not tense or swollen. I examined for this, but discovering no apparent irritation at this point, did not, of course, cut the gums *any how*. Prescribed 10 gts. Paragoric with a little Soda, after every evacuation, until partially under the influence of the opiate. The morning of the 23d., 10 A. M., she was still vomiting—had rested very badly, and had three or four discharges during the night. Unwilling to push the opiates any further, I resorted to my hobby-horse, a mixture of Quinine and Iron, ordering three doses that day. Notwithstanding the infant was weak and very sick, my belief was so strong in the efficacy of the medicine, that she was not seen again until noon of the 24th, which visit rewarded my credulity. In a day or two, the child was discharged, with instructions that remainder of contents of  $\frac{3}{4}$  iv. phial should be taken. I omitted to state that brandy, in the form of toddy, is a great adjuvant in the treatment of this disease.

Before closing this, it would be proper, probably, to apologise for not treating my subject more originally, and more at length. I deemed it proper to put in as close compass my views as possible, and these views from my peculiar, and fortunate surroundings, must, necessarily, be derived, in a great measure, from the experiences of others, more freely walking the wards of Hospitals, and hence whatever claims for originality in this essay I might *seem* to merit, they are merely practical experiments, upon a scientific principle.

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*Cancer.* Read before the Rutherford County Medical Society, Nov. 1858. By B. W. AVENT, M. D., of Murfreesboro', Tenn.

THE following cases of Cancer, which I propose to report to the Society, have occurred under my personal observation. They have been selected from a number of others, as embodying the most prominent characteristics of this disease, so far as my observation has extended in its management.

All the cases, except one, have been treated within the last few years. Notes taken during the progress of each, are relied upon for correctness.

CASE I. James Mitchell, aged sixty-five, of strictly temperate habits, originally a large stout man, a farmer by profession, had noticed for many years a small tumor upon the back of the right hand, though not of sufficient importance to produce inconvenience. About three years before I saw the case he received

a scratch upon the surface of the tumor, from the tooth of a dog. Inflammation followed, the tumor suppurated, and in a short time assumed a malignant character. The disease continued to increase, until the whole hand became involved. He is now suffering great pain from it, the hand is almost entirely destroyed, and is the seat of frequent and violent attacks of hemorrhage. His general health is bad, he is much emaciated, and has hectic fever and night sweats. Amputation was determined on as offering the only hope of relief.

On the 25th October, 1845, the operation was performed below the elbow. Nothing occurred during or after the operation to embarrass the case. His recovery was unusually rapid. He soon recovered his former health, and was able again to attend to the business of his farm. I saw the old gentleman four months after the operation, when he informed me that he had not felt so well for many years. In less than one year, however, from this time, I was requested to visit Mr. Mitchell, and found a tumor about the size of a turkey's egg, just below, and near the sternal end of the clavicle of the same side. It was quite hard, and had every appearance of malignancy. I did not see him afterwards, but learned from his physician that the tumor soon softened, communicated with the lungs, and that he died in a short time with pulmonary disease.

In this case there was no appearance of disease in the stump. He died about fifteen months after the removal of the limb.

CASE II. On the 8th of April, 1854, I removed the entire right breast of a negro woman, aged thirty-five years, who was the subject of scirrhous cancer, involving about two-thirds of the gland. This patient had enjoyed good health up to the time of the appearance of the tumor in the breast. She was the mother of several children, all of whom were healthy. About three years previous to the operation, the disease first made its appearance. The gland had become quite painful, and had ulcerated at two points. Her general health had not suffered to any great extent, but recently there had been a more rapid decline.

The tumor being very large, the incision for its removal was necessarily a long one. The lips of the wound were brought together, and confined by sutures and adhesive straps. In twenty days the cicatrix was complete. Her health improved rapidly; so great was the improvement, that only a few weeks elapsed until she was able to perform the ordinary house labor of a female servant. I think she was the weaver of the family.

About a year after the operation, this patient presented herself again for treatment. A tumor, the size of a hen's egg, had formed in the axilla of the same side. It was of some two or three months standing, quite painful and hard, except at one point, which evidently showed the presence of fluid. It was opened



with the lancet, and its contents discharged. This proved to be a semi-transparent fluid, containing a small quantity of pus. It was contained in a sac, which separated it from the main body of the tumor. A month afterwards I examined the tumor again, when an operation for its entire removal was determined on. Before the appointed time arrived, however, the tumor had taken on an acute form of inflammation, which had extended from the axilla to the spine. The operation was not attempted. She died two weeks afterwards.

There was no return of disease in the original location. The cicatrix remained sound. This patient survived the operation fourteen months.

CASE III. In the month of September, 1855, I was requested to visit a negro boy, in an adjoining county, for the purpose of removing a tumor from the left scrotum. This patient was ten years old, in good health, and well grown for a lad of his age. His parents were healthy. The tumor was hard, unyielding, and quite heavy. It had never been painful, and was only, troublesome from its weight and size. Its first appearance was detected about three years before I saw him. The growth of it had been continuous, though more rapid for the last four or five months.

Assisted by Dr. Donoho of Cainesville, and Dr. Smith, of Murfreesboro', I removed the entire tumor, together with the left testis, which was involved in the general mass. The tumor after its removal, weighed 1lb. 8oz., and proved on examination to be malignant. Recovery was very prompt in this case. The boy seemed to be in the enjoyment of uninterrupted good health for about nine months. The first intimation of a relapse in this case was the discovery of a tumor of considerable size in the cavity of the abdomen, which from its location, was thought to be an enlargement of the spleen. Subsequently, however, it was found to be a distinct growth, situated in the epigastric region. Constitutional symptoms of a grave character soon supervened, attended with dropsical effusion, particularly within the abdomen. To relieve the distension it was thought advisable to perform paracentesis abdominis, which had been done on one or two occasions by Dr. Donoho who had charge of the case. His decline was rapid. He died thirteen months after the removal of the tumor. There was no return of the disease at the point of the operation. The cicatrix was complete, and remained so up to the time of death.

A post-mortem examination was obtained, which revealed the presence of a large diseased mass within the cavity of the abdomen, evidently malignant in its character.

CASE IV. In November, 1855, Dr. Burke, of this county, requested me to examine with him, a negro woman, whom he had had under treatment for a year or more, for a sore upon her leg.

This patient was forty years old, and the mother of several children. Her health had generally been good until recently. Most of her sufferings she attributed to the condition of the leg, which was probably true. An examination of the case showed, the presence of a fungoid growth, two inches in diameter, situated on the front of the lower third of the tibia. This disease originated from a small tumor discovered five years previously, but which at first was not of sufficient importance to excite much attention. In a year or two it gave evidence of growth, and finally from some imprudence became inflamed, suppurated, and did not afterwards heal. Within the last few months there had been quite an increase of disease in the parts. Various escharotics had been used with a view of removing the fungoid formation, but without success, each slough being followed by a reproduction of a similar character.

I dissected out the entire growth in this case with the knife, extending the incision for some distance beyond where there seemed to be any appearance of disease. The sound skin on each side of the leg was divided, and partially dissected up, so as to afford a covering to the original seat of the sore. The dressings consisted of adhesive straps firmly applied, and the bandage. The healing process progressed finely, until there was almost an entire closing of the wounds made in the operation. At one time she reported herself well. In a month or two though, there was a relapse in the original location, manifestly assuming the same character. All hope of success by the means thus far employed having failed, amputation was determined on as offering the only remaining prospect of relief. The limb was taken off below the knee. A healthy cicatrix of the stump followed. Her general health signally improved, and in a short time she seemed to be free from all disease.

Six months after the removal of the limb, another tumor made its appearance in the groin, which grew with unusual rapidity. The parts soon suppurated, a fungus hematodes was developed, constitutional symptoms followed, and the patient soon became a prey to the disease. She survived the operation twelve months. The stump continued sound.

CASE V. February 1st, 1857. Robert Belt consulted me to-day on account of an enlargement of the left testis, which he says has been approaching its present size for a period of years. The gland has recently become quite painful, and from its weight has been a source of great annoyance. The organ is now about treble the dimensions of the other. It is hard and unyielding, except at one or two points, which show the presence of fluid. The age of the patient is about twenty years. He is small in stature, and has the appearance of general bad health. This condition though he attributes to an attack of intermittent fever from

which he has had a slow recovery. I can discover no symptoms showing the lesion of other organs. The removal of the testis is advised.

Assisted by Drs. Baskette and Smith, a few days after the examination mentioned above, I extirpated the testis. He had a speedy recovery. In three weeks he returned home with the wound healed. His health also improved very perceptibly. A examination of the specimen after its removal, satisfied us that it was malignant in its character.

I did not see the patient after his return home, but through the kindness of Dr. Geo. W. Robinson, who had the subsequent management of the case, I am enabled to give the following facts: "At your request I will give a brief statement of the case of Robert Belt after your operation. After his return home, his health appeared better than usual for about three months. In July I think he consulted me in regard to some pain he felt at times in his abdomen. Upon examination I found within the abdomen two or three large unyielding tumors, also another of considerable size, just above the clavicle of the left side. Rapid emaciation ensued. His bowels were constantly costive, and were moved only when urged by medicine. At times his abdominal pains were acute in the highest degree. The cicatrix remained sound and healthy. His death took place about the first of December."

This patient survived the operation ten months.

That the above cases may be brought more definitely before the Society, I now propose to throw together in statistical shape, the age of each patient, as well as the length of time that each survived the operation

|         | AGE.      | DIED.                          |   |   |   |   |
|---------|-----------|--------------------------------|---|---|---|---|
| Case 1. | 60 years. | 15 months after the operation. |   |   |   |   |
| " 2.    | 35 "      | 14 "                           | " | " | " | " |
| " 3.    | 10 "      | 13 "                           | " | " | " | " |
| " 4.    | 40 "      | 12 "                           | " | " | " | " |
| " 5.    | 20 "      | 10 "                           | " | " | " | " |

Reference to the above figures show that these patients (though few in number,) embrace ages ranging from ten to sixty years. The average age is thirty-three years. The average length of life after the operation is thirteen months. The length of time from the date of each operation clearly proves that age did not influence the result. The same fact obtains as regards the selection of the local deposition. It will be remembered that these operations were performed on different parts of the body: 1st, The removal of an arm; 2d, An entire mammary gland; 3d, A tumor involving the testis; 4th, An inferior extremity; 5th, A testis; yet no one of these locations seemed to have exerted any beneficial influence over another in protracting the life of the subject. There is another fact in connection with this part of the subject worthy



of notice, which is the length of life after the operation compared with the duration of the disease in each case, previous to that interference. The duration of the disease previous to the operations seems to have had no controlling influence upon the length of life afterwards. The patient that had been the subject of the local affection the greatest number of years, proved to be the longest liver after the operation. A question of great practical importance might arise in this connection. Would these patients have died within an average of thirteen months from the date of the operations had none been performed? Or in other words, does the removal of a cancerous growth tend to establish a relative limit to life? These cases certainly give an affirmative answer to such a question. The great majority of cases, as we gather them from statistical calculations go to strengthen this position. But these reflections are leading me from other considerations connected with this subject, which are probably of equal, if not of greater importance.

The cases reported very clearly prove the following facts:

1. That a wound made for the removal of a cancerous growth including the entire local disease, will, under ordinary circumstances, heal with great promptness, and that the cicatrix may remain sound. Such was the result in each of these cases.

2. That neither the integrity of the cicatrix nor the sudden return of health which may follow an operation, affords any immunity whatever from a subsequent relapse.

3. That the secondary manifestations are apt to appear in organs more immediately essential to life, accounting in a great degree for the remarkable limit to the duration of life after an operation.

The conclusions deducible from these propositions are, first, that cancer is dependent upon constitutional dyscrasia, which cannot be eradicated by any topical appliances, however successful they may be in relieving the local distress; and secondly, that no beneficial results are to be hoped for by the mere removal of a cancerous growth, but on the contrary rather is it to be expected that in the majority of cases the transfer of the cancer irritation to important organs, will prove more signally disastrous to life. If this view of the subject be true, as well might we expect to cure a case of syphilis by cauterizing the chancre, or to eradicate scrofula by the extirpation of an enlarged lymphatic gland, as to relieve a case of cancer by the mere removal of a tumor, it being but the local manifestation of a constitutional vice.

It is proper, however, to remark, that the doctrine of the constitutional nature of cancer is not universally admitted by pathologists. It is affirmed by many entitled to credit, that cancer in its first inception, is purely a local disease, and only becomes constitutional in its progress and secondary development. In the French

schools of medicine may be found numerous advocates of this theory. Amongst these Velpeau may be considered as occupying the most prominent position. A very animated discussion upon this subject occurred in the Academy of Medicine, Paris, in 1854, in which MM. Robert and Velpeau were the principal disputants, the first affirming and the second denying the presence of this peculiar diathesis as essential to the existence of cancer. The great discrepancy in the result of Velpeau's operations, when compared with other surgeons, induced M. Robert to call in question the correctness of his diagnosis. His success certainly has not been experienced by other surgeons.

Taking the generally received opinion as testimony upon this subject, there would seem to be but little doubt remaining as to the necessity of some peculiar diathesis in the production of this disease. What that diathesis is, and what circumstances are necessary to excite it to the development of a cancer growth, are questions which pathologists have not thus far been able to explain.

The difficulty experienced in correctly diagnosing a case of cancer, has given rise to many of the conflicting opinions which have heretofore obtained on this subject, and which at present lie in the way of reliable investigation. Notwithstanding so much has been written, and so much of theory promulgated, aiming at this one object, yet it cannot now be said with truth that there is a single pathognomonic characteristic, by which the cancerous diathesis, or even a cancer tumor may be unqualifiedly recognized. The aid afforded by the microscope in detecting the presence of the cancer cell, as it has been denominated, though at one time considered an unerring acquisition, is now only relied upon to a limited extent. Recent experiments have clearly proven that cancer may exist with or without this peculiar cell formation. It is farther claimed that tumors presenting the ordinary indications of benign growths, do occasionally contain cells, in which this peculiar conformation may be recognized. The following examples are in point: About the first of August last, I removed a tumor from the thigh of a negro man, which was attached by a pedicle to the skin and cellular substance immediately beneath it. An examination of the tumor after its removal with the naked eye showed that it was only a benign fibrous growth. A small quantity of fluid, squeezed from it, was tested by the microscope, when a most interesting and beautiful display of cancer cells was presented. Another case, in a dying condition, from the secondary formation of a malignant growth, was submitted to the same test, when not a single cancer cell could be discovered. It might be argued, however, that in the first of these cases, the diathesis existed, and that the tumor, though benign in its character, was selected as the most acceptable location for the deposition of

the cancer cells; whilst in the second, the specimen obtained might not have been a true representation of the growth from which it was extracted. Such conclusions, were these the only examples, might with some degree of cogency be entertained, but strengthened as they are by similar results, entitle them at least to some degree of confidence.

There is one theory of this disease, which pathologists with few exceptions adopt. It is now almost universally conceded, that the development of cancer is the result of some anomaly of the blood, which anomaly is primary to, and productive of, the peculiar dyscrasis or cancer diathesis. What the peculiar condition of the blood is which produces the effect in question, neither the tests of the microscope, nor chemical analysis, have thus far explained. The experiments made though, have done some good in the encouragement afforded through partial results favoring some of the characteristics observable in cancer. We are still left, however, unadvised as to what is the true pathology of the disease.

Before closing these observations, I wish to call the attention of the members to a few thoughts, which, though somewhat speculative, seem not to be contradicted by many of the leading features which characterize the cancer dyscrasis.

Taking the assumption as true, that the constitutional vice is seated in the blood, a legitimate enquiry suggests a farther investigation of the qualitative nature of the fluid, in its departure from the healthy crasis. Disease dependent upon anomalies of the blood, results ordinarily from one of two conditions. The first is that in which defective action is manifested; the consequence of anæmic anomaly. The second is the reverse of the first, and results from a state of the constitution denominated plethora, hypnosis, or in contradistinction to anæmia, may be termed hyperæmia. Without stopping to enquire into the specific character of the blood in these adverse conditions of the system, the general conclusion must be that whenever disease supervenes in the two, it cannot be identical. In the one it is observable in defective innervation, in the other in exalted vital action, consequently the diathesis of one must be dissimilar to the other in direct ratio to the extent of the departure. It was by this plan of investigation that the present pathology of phthisis pulmonalis was arrived at. It is now a well established principle that the formation of tubercle is the consequence of defective vital powers, in which innervation is at fault. An observance of this principle has led to important practical results. The treatment once adopted in consumption is now abandoned, and though it is still an incurable disease, its subjects are enabled to live longer than heretofore. And to such as have hereditary taints, almost an entire immunity from its tendencies may be enjoyed, by attention to a course of living, the object of which is to build up the constitution,



and to keep the vital forces in full performance of their several functions.

Could we learn this much of the pathology of cancer, the practical results would be equally valuable. And why may we not?

To apply this purity of reasoning to the subject under consideration would lead at once to the enquiry, as to which of these conditions are primary in the cancer diathesis. Does this disease have for its primary cause the same qualitative character of the blood that obtains in tuberculosis? All pathologists, I believe, acknowledge that it does not. A comparison of the subjects of the two affections, their modes of life, the onslaught of the disease in each, as well as the progress and development, all go to prove the dissimilarity. This absence of identity does not obtain from a want of relative frequency of attack in different organs of the body, but in the character of attack, and the pathological condition shown in the localization of each.

Take cancer patients as a whole, examine their habits of life, together with the peculiar constitutional tendencies that have characterized them previous to the manifestation of the disease, and much will be found to establish the fact that it is from an exhausted state of the vital functions that the anomalous changes originate.

The statistical tables of cancer show that the largest number of cases occur about the period of life when all the vital powers of the system have arrived at the acme of physiological function, and when a change is about to take place in which the producing and expending processes are involved. Then it is that we might reasonably expect a manifestation of whatever morbid phenomena the circumstances of previous years had been instrumental in accumulating. Take for example the case of a female, who has lived through the years of reproductive life, whose health has been good, and whose catamenial functions have never been at fault, bring her to that period when a change has to take place, when the monthly flow has to cease, and when all the relations of functional life have to adapt themselves to new modifications, and we have pictured a proper subject according to statistical history, for the development of cancer diathesis. At this period the mammary glands and the uterus are peculiarly influenced; a hypertrophied form of disease appears in the one or the other, which we denominate cancer. Or in the other sex, take the man, who has lived at ease, who has kept his blood rich by indulgences in the luxuries of the table, and the use of alcoholic drinks; bring him to the period when the equilibrium of functional life has to be changed, and the same statistical record shows this to be the time when the cancer tumor more often makes its appearance. Reverse these pictures, and you will find but few instances of the supervention of the cancer diathesis or the presence of malignant growths.

A few practical observations may with propriety be brought to strengthen this position. It cannot but be remarked that sudden and active improvement of the general health not only occurred in the cases reported above, but that this condition almost invariably follows operations for the removal of cancerous growths. It is equally remarkable that a relapse of the disease usually takes place at the time when the general health of the subject seems to be entirely re-established. Paget makes a robust constitution and the active performance of the vital forces, obstacles to the removal of a cancer tumor, and even urges the propriety of abandoning the operation under circumstances of this character. Rokitsansky has observed cancer tumors sometimes to disappear when the constitution has suffered from attacks of other diseases, or where the richness of the blood has been reduced by privations. It is not improbable that occasionally, both the cancer diathesis and the cancer deposit, are so modified by circumstances of this character, as to result in an entire eradication of the disease.

If then these speculations should prove to be true, and an observance of them be adopted in the treatment of cancer, might we not expect practical results more flattering than those that have heretofore attended the efforts of the profession? The treatment of cancer has seldom extended beyond the local deposition, and will always be ineffective as long as this course is pursued. Should the researches of pathologists, however, succeed in bringing to light a more rational diagnosis in which the cause and effect, proximate and remote, of this disease, can be arrived at, the hope may be a vain one which might look forward to the time when it will be classed amongst the maladies of life amenable to treatment. But in the present state of our science, remedial agents, whether locally or constitutionally administered, seem to possess but little efficacy in removing the disease, or even protracting to any great extent the life of the subject.—[*Nashville Med. and Surg. Journal*.

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*On the Otorrhœa of Young Children.* Translated for the Boston Medical and Surgical Journal, from the *Journal für Kinderkrankheiten*.

OTORRHŒA, or a discharge or running from the ear, consists, in very many cases, of merely a chronic inflammation of the external passage of the ear, which has given rise to an increased secretion. The inflammation is usually confined to the external portion of the meatus, but sometimes extends to the surface of the membrane of the tympanum. The disease is most frequently observed in children, although it is not rare in adults. In the former, it is generally accompanied by a tendency to glandular engorgements, with symptoms of general debility; in

adults, it is also the sign of a depressed condition of health. The exciting cause may be a blow upon the ear, the employment of irritating local applications to the ear, or any acute inflammation of the lining membrane of the meatus; but the most frequent causes are scarlet fever, measles, or catarrhs. Often no cause can be discovered; the children complain of a slight irritation in the ear, which they seek to allay by introducing the finger, or a little stick, and the irritation disappears when the discharge begins. Sometimes, however, the discharge is the first symptom of the disease. In the early stages, the hearing is only slightly diminished by the disease, even when the inflammation and swelling extend to the external surface of the membrane of the tympanum; but when the disease has existed for any length of time, the membrane itself participates in it, and dullness of hearing, or deafness ensues. Moreover, it must be borne in mind, that catarrh of the meatus and external surface of the tympanum, is often but a symptom of irritation *within the tympanum*, and ceases as soon as this irritation is removed. After the disease has existed some time, there is often considerable irritation of the meatus, amounting, at times, to acute pain, with occasionally slight hæmorrhage. Hæmorrhage is more frequent, however, when there is a polypus in the meatus.

On examination of the meatus, its lining membrane is found to be thicker than usual, and sometimes so much so as to close the passage entirely. In many cases the membrane is red, and destitute of epithelium; on the other hand, it is frequently white, and covered with a thick epithelial layer. The secretion is generally very foetid, of various colors; sometimes of a milk-white, at others, of a dark slate color; and whatever its quantity, color, or consistence, it never contains flocculi, but when mixed with water, renders it cloudy.

It need hardly be said that polypus sometimes exists along with chronic catarrh of the meatus. In such cases there is bleeding from the ear, and flocculi are found in the secretion. The latter are also found when there is ulceration of the fibrous tissue of the membrana tympani, in which case blood is often mixed with the secretion. If the catarrhal inflammation extends to the mucous surface of the membrana, the latter becomes, like the meatus, thickened, and often very much congested. The membrane then loses its natural color and form; if we are able to employ a speculum, the outer surface is seen to be flatter than usual, and, in consequence of its thickening, neither the long nor the short process of the stapes is visible.

In the *treatment* of catarrhal otorrhœa, it is of the first importance to remove the secretion, and keep the meatus clean. This is best done by frequent syringing with lukewarm water. If there be so much pain or tenderness that the syringe cannot be used, one



or two leeches must be applied to the outer edge of the meatus, followed by warm fomentations or poultices, or the vapor of warm water may be directed upon the ear. After all tenderness is removed, and the meatus cleansed from the secretion, weak astringent solutions should be injected, and moderate counter-irritation applied to the mastoid process. These simple means, in connection with remedies for improving the general health, especially tonics, suffice, in very many cases, for curing the discharge. In very obstinate cases, the counter-irritation to the mastoid process must be maintained, so as to keep up an artificial discharge, which is best done by means of croton oil; and a strong solution of nitrate of silver, (ten to forty grains to the ounce,) should be thrown into the meatus every third day, by means of a glass syringe.

There are cases, however, which resist this treatment, the discharge continuing unchanged for two or three months. The treatment should then be steadily persevered in, as it may at least prevent ulceration of the membrane of the tympanum, caries of the bones, and the development of polypi.

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*Report of a Case of Popliteal Aneurism, successfully treated by continued Flexion of the Knee-Joint.* By ALEXANDER SHAW, Esq., Surgeon to the Middlesex Hospital, etc.

At a recent meeting of the Royal Medical and Chirurgical Society of London, Mr. Alexander Shaw, Surgeon to Middlesex Hospital, reported a case of successful treatment of Popliteal Aneurism, by the above method which seems to have been recently particularly recommended by Mr. Ernest Hart, of the West London Hospital. Any successful endeavor to avoid the use of the knife, by so simple and practicable an expedient, well deserves the attention of the profession. Other cases are reported—the following, is perhaps the most striking:

The patient, aged thirty, first perceived a pulsating tumor in the left ham a week before his admission into the Middlesex Hospital. It was of the size of a lemon, occupied the centre of the popliteal space; was easily compressed; the pulsation was strong, and there were other signs of its being a recent aneurism. On December 1st., the knee was secured in the bent position, by a band brought round the foot and thigh, and fixed near the hip. The immediate effect of the flexion was that the patient ceased to feel the beating of the tumor, and that on inserting the oiled finger into the flexure behind the knee,

no pulsation could be discerned. On the fourth day, when the limb was unbound, the tumor was found to have lost about a third of its original size; its walls were thicker and denser, the force of the pulsation was considerably diminished, and the sac had receded more deeply into the popliteal cavity. Gradual improvement continued to take place. Between the third and fourth week from the commencement of the treatment, the sac had become greatly reduced in size; its walls appeared nearly solid, and the pulsation was so faint, that it was expected at each visit to find it extinct. The treatment was varied, by occasionally undoing the strap, which confined the knee, for several hours together; but owing to the stiffness caused by the long continuance of the flexion, the position of the joint was not much altered by the relaxation. I was not till the thirty-eighth day that the pulsation in the tumor altogether ceased. The sac was at the time about the size of a walnut. The patient gradually recovered the power of extending the joint. On the fiftieth day, he could walk with only a slight halt, and on the fifty-sixth day he was discharged. During the first ten days, the patient complained of the pain, as well as the irksomeness, of keeping his knee constantly bent; and for a slight swelling of the joint, a lead lotion was applied. Afterwards, he made light of the inconvenience, and never at any time asked to have the belt relaxed.

At the close of the case, the author offered a few brief remarks on the principle on which the cure was effected, and, in illustration, added the observation that, by extreme flexion of the knee-joint of a sound limb, the force of the current of blood through the popliteal artery can be weakened to such a degree, as to cause stoppage of pulsation in the tibial arteries.

Mr. Fergusson eulogized the papers read, and said he regarded the proceeding described by Mr. Hart as a valuable addition to the practice of surgery. He spoke of the value of pressure generally, in the treatment of aneurism, and also of "manipulation"—modes of treatment which he thought would set aside, in many instances, the necessity for the knife. In the plan pursued in the cases before the Society, there might be failures, but this was no reason why we should discard the method, but should rather encourage us to persevere to determine the real value of the proceeding. The plan was not altogether novel, for it had been tried three or four years since in King's College Hospital. One of his house-surgeons had ascertained, in a case of popliteal aneurism, that when the leg was flexed upon the thigh, the pulsation of the tumor ceased. The aneurism was of the size of the fist, and was treated by pressure in the groin, and by flexure of the leg upon the thigh. This was persevered in for some time, but without benefit. The man, being im-

patient of treatment, left the hospital and died of some other disease. To show the influence of position in certain cases of aneurism, he related a case of that disease in the popliteal space, in which the employment of pressure gave encouraging, but tardy results. It was found in this case, that on extending the leg to its full degree, after the employment of pressure, all pulsation in the tumor ceased.

Mr. Birkett briefly referred to three cases of aneurism, treated by pressure which had come under his notice, in Guy's Hospital. In one case, ordinary pressure in the groin was applied; then pressure by flexion. Neither did good, but it must be admitted that they were not fairly tried. The femoral artery was afterwards tied, and the patient recovered. In the second case, ordinary pressure was applied at first with success; but suddenly the tumor became much enlarged, the femoral was tied, and the patient did well. In the third case, the patient, a man, had an aneurism in the right popliteal space. Pressure was tried, and in fourteen days he appeared well. The tumor contracted, and felt like a small hard ball. Flexion was then resorted to, but not persevered in, and ordinary pressure was again employed. The aneurism, however, gave way, and the femoral had to be tied. The man subsequently had a small aneurism in the left popliteal space; he would not submit to flexion, so the femoral vessel was secured.

Mr. Savory said that these cases were especially interesting and instructive in their relation to the physiology of the blood-vessels. It was familiarly known that a transverse wound of an artery gaped widely, and that when an artery was completely divided, the ends retracted. Yet these important facts had seldom received more than a passing notice. They had never been explained. To what was this retraction due? The muscular tissue was in no way concerned in it, for it occurred at a long period after death, as well as during life. Neither would elasticity alone explain it. Another condition was required, and that was tension. The arteries were elastic tubes, always tense; so that, when divided, by no management of posture or position could the retracted ends be brought into apposition. The extent of the retraction was a measure, then, not of their elasticity, but of their tension. This constant state of tension was obviously connected with their purpose; by it their patency, under every variety of movement and position, was secured. But this rule had its exceptions, and these were to be found at the knee and elbow joints. At these parts, when an artery was divided, extreme flexion would bring their ends into apposition; but in this position, and for this very reason, the course of the vessel was interrupted; the course of the blood through it was impeded; the pulse ceased in the limb beyond. Thus



he conceived was explained the principles upon which the cure of aneurism by this means was accomplished. It was not due to pressure in the sense in which that term had been employed. It was due to the fact that the circulation through the artery at a short distance on the distal side of the sac was arrested; so that, as far as the principle was concerned, it would probably succeed, whatever part of the popliteal space the aneurism occupied. Now, in connexion with this interesting fact—the arrest of the current through the artery, by extreme flexion of the limb—Mr. Nunn, in some observations on the arrangement of the arteries of the limbs, recently published, has alluded to the remarkably free anastomosis which existed around these joints. They were clearly for the purpose, as he said, of compensating for the occasional interruption through the main channel. He (Mr. Savory,) added, this plan of treatment appeared free from one grave objection to the ordinary treatment by compression, namely, of interfering with venous circulation. For although in extreme flexion, the current through the main vein was interrupted also, yet here there was also an abundant superficial venous anastomosis around. The veins, like the arteries, were elastic, and to say the least, were equally tense.[—*Lancet*.

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*Puerperal Convulsions.* By FRANCIS H. RAMSBOTHAM, M.D.,  
Obstetric Physician to the London Hospital, etc.

ON Monday, February 7, 1859, at 5 P. M., I was sent for by Mr. Pryce, of Walworth, to Mrs. G., Beresford street, aged twenty-eight, a stout, plethoric woman, pregnant for the first time, between six and seven months. She had complained, for six days before the attack, of drowsiness, confusion of ideas, with slight pain in the head, stertorous breathing, and puffy hands and face. She had never been the subject of hysteric or epileptic fits. In the afternoon of Sunday she experienced a severe attack of vomiting and purging, and at 9, P M, was seized with a violent convulsion. The fits recurred very frequently—the people about her said every ten minutes—through the night and during Monday. She remained perfectly insensible the whole time, her breathing heavy and stertorous. On my arrival however, there had been an intermission of nearly an hour free from fits, and she had just swallowed two or three tea-spoonsful of tea for the first time since the beginning of the seizure. Nevertheless she was still quite unconscious, with widely-dilated pupils, acting sluggishly to the stimulus of light. The uterus occasionally became hard, and there seemed to be a disposition for the commencement of premature labor. She had been bled twice during the night,

losing about thirty ounces of blood at the two operations; and in the day had been cupped on the back of the neck, and twelve leeches had been applied to her temples. The hair had been cut off, ice was applied to the head, and a turpentine enema had been administered, which had brought away a large quantity of fœtid stools. I had some difficulty in reaching the os uteri with my finger, for it was very high, and inclined more than usually backward. It was dilated to the sixpence, just admitting the end of the finger, and the membranes were felt tense. Before withdrawing my hand I ruptured the membranes, and gave exit to a considerable discharge of liquor amnii; I then felt a limb, but could not make out which. Her size was greatly diminished. She had no more fits while I stayed in the house. I recommended that as long as she remained unconscious three grains of calomel should be placed on her tongue every two hours, in the hope of passing into the stomach; and that another turpentine enema should be injected. There were only two more fits after I left; labor-pains supervened, and she was delivered at 2, A. M. (Tuesday;) the knees presenting. Her consciousness gradually returned soon after delivery; though headache continued. On Saturday, the 12th, Mr. Price wrote to me, that he had seen her that morning sitting up, after a refreshing sleep of five hours; that she still complained of her head, and felt relief from the cold application. The lochia after delivery were very scanty; she took ten grains of calomel, and for two days the sphincters performed their duty imperfectly. It is remarkable that she has no recollection whatever of anything that occurred for six days before the attack appeared, although she was following her ordinary occupation all the time; and except for the headache and drowsiness, seemed as usual. No albumen could be detected in the urine. She is now convalescent.

Holding the opinion, as I do, that an attack of puerperal convulsions is merely a modification of cerebral apoplexy, I consider that this young woman's life was saved by the prompt and decisive bleeding.—[*Med. Times and Gazette.*

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*Antiquity of Metal Sutures.*

DR. J. H. AVELING calls attention (*Med. Times and Gaz.*, Jan. 22, 1859) to the fact that Fabricius Aquapendente, in 1647, gave all the reasons which are now being put forward for preferring the inorganic to the organic ligature. After describing the ligature of Fallopius, which was of thread, and like the one which we until lately have been using, and that of Guido, which was made of metal, and hooked the two lips of a wound together; he says that he provides himself with many flexible needles of iron or of brass, made soft, except at the point, over burning coals. These he passes

through the lips of the wound, and then turns back the extremities, the right to the left and the left to the right, fitting them over the wound either straightly and plainly, or by making a knot and allowing them to remain until the wound is almost agglutinated.\*

The following are the reasons Fabricius gave more than two hundred years ago for preferring his metal fibula to that of Fallopius, which was of thread :

“Quod si licet aliquando paradoxum vobis afferre, dixero potius meam fibulam potius esse, propter rationes ex comparatione desumptas à juvantibus, et nocentibus, si quidem fibula Fallopii ex filo facta, mordet ubique carnem, quia filum asperum est, et inæquale, cum sit tortum, acus verò livigata est, et perpolita. Rursus filum mordendo labia vulneris transversè ea perrodi, quod experientia passim patefacit, et confirmat; at acus flexibilis, cum rotunda sit, et levigata, nihil istiusmodi facit: exemplo sint annuli aurei, aut ferri qui auribus perforatis diutissime gestantur, utrumque penduli sint. Rursus si filum valentius stringatur, interdum rumpitur, quo non patitur acus mollis, ferrea, aut ænea. Amplius filum est materia, quæ facillè tenditur, et laxatur, ferrum verò flexibile neutiquam laxatur. Amplius laxitas ex filo dupliciter succedit, tum ex laxa fili natura, tum ex perrosi labiis, unde etsi à filo labia vulneris ad mutuum contactum adducuntur, non tamen adduc conservantur, quia propter fili naturam dupliciter laxantem disjunguntur, et hiant; sed neutram laxitatem ex acu flexibili rotunda, et perpolita expectare oportet. Ultimò filum non difficile putrescit à sanie, et ichoribus, at acus ferrea, aut ænea, immunis est ab hujusmodi labe. Quod si tandem addatis, æs, et ferrum habere vim refrigerandi, et adstringendi, vulneris glutinationi consentaneum erit: et hoc est argumentum veritatem paradoxo omnino comprobans, et confirmans.”†

These advantages may be summed up thus : 1. Iron does not eat into the flesh. 2. It does not ulcerate out. 3. It does not stretch and break. 4. It is not rotten by the discharge.

What more remains to be said than is here stated? Is it not curious that we are only just now beginning to appreciate the fact which Fabricius gave to the world so many years since?

[*American Jour. of Med. Sciences.*

### *New Method of Curing Hydrocele.*

THIS method, suggested by Dr. Simpson, at a meeting of the Medico-Chirurgical Society of Edinburgh, is founded on the fact that iron and other metallic wires, when placed in contact with living tissues, did not, as a general law, excite inflammation to

\* I think this plan of using needles might be returned to with advantage in some cases of wounds about the face.

† *De Chirurgicis Operationibus*, p. 146.



a higher stage than that of adhesion, or the effusion of coagulable lymph. Dr. Rothmund, of Munich, performed the radical cure of hernia by exciting adhesive inflammation in the returned hernial sac, passing, for this purpose, and leaving for eight days, a metallic needle traversing the peritoneum; and had not, it was averred, lost a single patient out of 1000 operated on. If metals in serous sacks create a higher stage of inflammation than the adhesive, such a fortunate result as this would not have been attained. Dr. S. had thought for some time that metallic wires passed through the sac of a hydrocele would act in two ways: first, they would drain off the fluid; and, secondly, they would subsequently, by their presence, form the surest means of exciting the subsequent amount of adhesive inflammation that was required for the cure of the disease. Dr. Young had, in one of his patients, afforded him an opportunity of putting this idea to the test. Dr. S. showed the Society the slender wire or metallic seton which had been used in this case. It was passed through the sac by first traversing the sac from below upwards with a long-handled surgical needle, such as is used in transfixing and tying hæmorrhoids, threading the eye of the needle, after it was projected through the scrotum above, with three or four slender iron threads, pulling the needles then backwards through the sac and out, and thus leaving the metallic seton in its place. The liquid drained off in an hour or two; adhesive inflammation set in, and progressed for two days, when it began to subside. The wires were removed on the third day; and the cure had remained apparently quite complete, with the vaginal sac firm and consolidated. Dr. Young had promised to publish the whole case at length. This method of treating hydrocele was, Dr. S. held, much simpler in its performance than tapping and injecting; not by any means so painful to the patients; less likely to produce a suppurative or dangerous amount of inflammation; and, perhaps, experience would show also, betimes, that it was surer and more certain in its results.—[*Edinburg Med. Journal.*

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### *New Mode of Administering Iodine.*

EFFORTS have lately been made in France to administer iodine in a more efficacious manner than had hitherto been done. M. Leriche of Lions has published valuable articles in *L'Union Médicale*, wherein he endeavors to show that iodine, combined with vegetable substances, advantageously replaces cod liver oil. He proposes a syrup made of the juice of water cress and iodine, and also an iodine wine. The syrup has the advantage of not fermenting, and contains exactly one grain of iodine per ounce.

The wine is composed thus: Bordeaux wine, eight ounces; concentrated infusion of red roses, about thirteen drachms; tincture of iodine, one drachm and a half. Each ounce contains one grain of iodine. From one to six tablespoonfuls may be given daily, according to the indications and the age of patients. In the space of three years M. Leriche treated thirty-eight scrofulous patients with the wine; twenty-one were perfectly cured, after a treatment steadily pursued for some time; eight did not improve at all; and nine improved but slightly, either because the treatment was carried on imperfectly, or because it was left off too soon.

M. Boinet, on the other hand, well known by long continued investigations respecting the use of iodine, read on the 28th of September last, before the Academy of Medicine of Paris, a paper, in which he proposes to use iodine as an article of food. The author administers iodine as found in nature, viz: combined with those plants which contain the greatest quantity of the alkaloid. The latter being thus given in minute doses, in a continuous and almost imperceptible manner, yields most advantageous results. M. Boinet uses fuci, marine plants, cruciferae, salts containing iodine, and some mineral waters holding iodine in solution. His excipients are ordinary bread, ginger bread, cakes, biscuits, chocolate, wine, beer, syrup, etc., some being especially calculated for children. Trials were begun by M. Boinet as far back as 1849, upon subjects suffering very severely from the various well known scrofulous symptoms, and most of them were cured, after continuing the iodized food for several months. The author has not found that iodine administered for a long time produced a loss of flesh and atrophy of certain organs. Far from having these effects, the iodine in his hands has invigorated patients, and favored the development of organs. Messrs. Chatin and Trousseau are to report upon the paper.—[*American Jour. of Med. Sciences.*]

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*New Theory and Treatment of Chlorosis.* By Dr. VON MAACK.

THE glycogenic function of the liver is hardly made known, and already pathologists hasten to assign to it a part in the pathogeny of diseases. Although we receive the ideas of the author with the greatest reserve, we republish his theory in order to illustrate this scientific tendency, common to all ages.

"The diminution of the red corpuscles in the blood of chlorotic patients," says the author, "is an established fact. These corpuscles owe their color to the iron which they contain; it is, therefore, evident that the quantity of this metal in the blood is diminished in cases of this kind. This diminution is not the result of resorption, for the urine contains only a small quantity of solid matter, but it is the consequence of bad elaboration.

"We know also that the very small quantity of iron which the organism in the healthy state draws from the ingested aliments is quite sufficient for all its wants, and that the bile is the only secretion which contains it in notable quantity.

"This being known, how do we explain the formation or development of chlorosis in a young woman who enjoyed good health previously? She takes the same aliments after the appearance of the disease as before; it is, therefore, impossible to attribute this affection to a privation of the ferruginous element, for, afterwards, as before, the same quantity of it is absorbed, and has sufficed for many years to maintain health.

"The real cause is more likely this, that it is impossible for the organism to transform the iron into hematin and to fix it. From what does this impossibility arise? M. Lehmann has proved that hematin, like salicin; phloorrhizein, etc. is a saccharine compound. Hematin needs, therefore, sugar for its formation. Thus, as soon as the saccharine secretion of the liver is diminished or arrested, the formation of the coloring substance of the blood will cease, and consequently that of the red corpuscles.

"The true origin of chlorosis would consequently, be the want or the diminution of the quantity of sugar elaborated by the liver."

The author draws the following conclusions from his premises:—

1. The treatment of chlorosis must consist in the use of sugar.
2. The object of the treatment must be to re-establish the saccharine secretion of the liver.
3. The medication which consists in the abundant use of iron has not introduced into the organism an element which was wanted there, as is believed, but has cured by acting upon the healthy secretion of the liver.

The best remedy, according to Dr. Von Maack, consists in the use of grape-sugar and of honey. This treatment of chlorosis, it seems, has been practiced for a long time by the people in the northern part of Schleswig, and of certain regions of Hanover. An adjuvant to it is cold water used freely as a drink; already Petter has recommended it as excellent in diabetes.—[*Archives für Wissenschaftliche Heilkunde*, and *North.Am. Med. Chir. Rev.*

### *New Hygrometric Theory of Cholera.*

THE meteorological relations of the cholera epidemic were for the first time carefully studied in this country during the last visitation. It cannot be said that the results were very conclusive in any one direction, or that any theory of disease in relation to climatal disease has been eliminated from the investigations then made; but the council of the British meteorological society, in their last report, while recording their sense of the incompleteness of these and other collected observations for any medi-



cal theories, undertake to continue their labors, and express a strong hope of useful deductions.

M. de Ruolz, well known for important discoveries in the art of electro-gilding, has been content to argue from a narrow basis, and has lately communicated to the *Cercle de la Presse Scientifique* of Paris an interesting series of facts regarding the proportion of moisture contained in the atmosphere during the prevalence of cholera. By analyzing the various statistical data collected during the French epidemics of 1832, 1849 and 1854, M. de Ruolz has deduced the following facts: In 1832 the epidemic in Paris reached its height in April, when the hygrometer was lowest: it declined to the utmost in September, when the hygrometer was highest. In 1849 the hygrometrical observations at the observatory of Paris had been unaccountably neglected; but 1854 afforded results quite in accordance with those of 1832. Hence, M. de Ruolz infers that there undoubtedly exists a positive coincidence between the intensity of the epidemic and the hygrometrical state of the atmosphere, the former being in the inverse ratio of the humidity of air. Other circumstances he considers to point to the same conclusion: thus, Lyons, a city remarkable for its damp atmosphere, owing to the two rivers which embrace it, has never been visited by cholera. Amongst washerwomen, who live in a damp medium, he says the cholera has always been very low, and he makes the same assertion with reference to "persons living in damp places, on the banks of rivers, &c." Finally, M. de Ruolz tells us that during the last choleraic invasion in London, the copious watering of the streets was found very beneficial. The views thus enunciated in the *Cercle Scientifique* did not remain wholly unopposed. Thus, it was remarked that sailors were very subject to cholera; that cholera made great havoc in Holland, where the air is notoriously moist; and that in certain localities the cholera has been known to lay waste one bank of a river and to spare the other. M. de Ruolz, however, pressed for further investigation, and suggested that, by way of experiment, in any future epidemic the streets should be well watered, and the fire engines should play on the roofs of the houses in the infected quarter. It were idle to smile at his singular expedient, if indeed it were probable that any useful result could flow from it. And there is no valid reason why Mr. Braidwood should not brigade his force against an epidemic, or why cholera should not be attacked with the fire engine as well as with the lime pail and the brush of the whitewasher—a favorite panacea with metropolitan vestries—or by the artificial creation of ozone and the introduction of certain ozonified breezes, as more subtle chemists have recently suggested. But we have the strongest doubts whether M. de Ruolz's theory will "hold water." The experience of Lambeth,

of Wandsworth, and of other humid districts close to the river side, has certainly not offered confirmatory facts; and though unacquainted with the actual statistics of deaths from cholera amongst London washerwomen, we are in possession of a number of isolated observations which do not dispose us to regard soapsuds as a prophylactic against epidemics, in the sense which M. de Ruolz suggests.—*London Lancet*.

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*Varicocele*—Clinical Lecture of M. Nélaton. Communicated for the Boston Medical and Surgical Journal. By HALL CURTIS.

MESSRS. EDITORS.—Some of your readers may be pleased to know the views of this surgeon, who, having been attached for many years to the Military School of St. Cyr, was enabled to examine several cases of varicocele, and was induced to believe that this affection, though by no means rare, is neither well understood nor suitably treated—that errors are found in all the surgical works mentioning the subject—that the general causes to which its formation is attributed are wrongly stated, and really have no bearing in the matter.

Among the causes which our classical writers have much insisted on are found the three following:—hernia, with its consequent treatment, the truss; abdominal tumors; constipation.

If one examines the period of life when the varicocele is most frequently seen, namely, from the 16th to the 20th year, instantly he has a negation of the causes mentioned above, and considered the most predisposing agents in the malady.

*Firstly*, hernia is very rare at that age. M. Malgaigne, in 300 cases occurring between the ages of 10 and 40 years, finds only 26 cases between the 10th and 20th year.

*Secondly*, abdominal tumors are excessively rare in young subjects, especially at that period when you encounter the varicocele.

*Thirdly*, constipation. Young subjects are but rarely found who labor under this affection to a degree which, by its obstinacy, could be sufficient to produce a compression on the spermatic vein, and form the varicocele.

Again, hernia is much more frequent at the right than the left side—whereas varicocele is found almost constantly at the left.

From the autopsies which M. Nélaton has made, he proves that when a varicocele exists, the spermatic vein is tortuous, knotted and dilated throughout its course in the abdominal cavity; the hernial sac or the truss pressing upon the vein would cause the dilatation of the vessel below the inguinal ring only, and not within the cavity of the abdomen.

Anatomy has furnished a *supposed* solution of this abnormal

condition, and to the question why is the varicocele most frequently found in the left spermatic vein, has given a plausible explanation by referring to the anatomical disposition of the vein, and the manner in which it joins the large trunk into which it pours its contents.

The right spermatic vein, near its junction with the ascending vena cava, pursues a direction nearly similar to that of the larger vessel, and by a gradual approach joins it at an acute angle, the two currents readily uniting and flowing onward without obstruction.

The left, on the contrary, it is stated, joins the emulgent renal vein at a right angle, thus in a direction perpendicular to the current of blood coming from the kidney—a current considerably larger and moving with greater force. From this it appears that the spermatic vein is unable to empty its contents into the renal, in consequence of which is formed the varicocele.

This, however, is not true; the left spermatic vein does not enter the renal vein in a direction perpendicular to the latter, but bending outward from its course turns again inward, describing a double curve on itself, and falls into the renal vein, forming an acute angle, as the right spermatic in its junction with the vena cava.

Another reason assigned for the frequency of varicocele in the left spermatic vein is its greater proportional length. This may be disproved by the fact that a varicosed condition of the spermatic is not more common in tall men than in those of medium stature, though naturally we should find the veins longer in the former class.

The evil consequences of varicocele have been much overrated. Many authors state an atrophy of the testicle follows the varicosed condition of the vein. This is not by any means proved. To judge properly of the question, one should have ascertained that the subject was endowed with equal health and strength in each testicle before the appearance of the varix—and that after its advent the testicle had diminished.

That you find the testicle smaller when a varicocele exists, is at times true. But this is owing neither to a diminution in the testicle, nor an arrest in its development; the fact that the gland is small here, does not depend on the pre-existence of the varicocele, but they coexist accidentally. Nor because the testicle is small, can you judge that its power of secretion is less than its fellow gland; not unfrequently will you find a considerable difference in the weight of these glands, though their mutual functions are equally performed.

M. Nelaton thinks varicocele an affection whose cause is unknown—usually found in youth and rare in old age—that it disappears as man matures, and that the smaller ones are the most painful.



His treatment is determined by the facts, that they generally exist without pain, do not cause much inconvenience, that they *do not* cause an atrophy of the testicle nor any loss of its power, and that they disappear with maturity. He therefore insists on a palliative treatment—in ordinary cases, the use of a suspensory bandage; when considerable inconvenience arises, you may swathe the scrotum, thus supporting and compressing moderately the vessel, similarly to the elastic stocking for varicose veins of the leg—and only operating as the last measure in those cases where the pain is insupportable.

*Easy and Certain Cure of Facial Neuralgia.* By Dr. BURDACH, of Luckau.

DR. BURDACH recommends corrosive sublimate as a specific, never-failing remedy, in cases of facial neuralgia. He has used it for more than thirty years, and always obtained a prompt and permanent cure, no matter how severe a form the disease had assumed. The formula he employs is the same which he recommended in Hufeland's Journal for 1826 and 1830, in the treatment of rheumatic gout; it is the following:—

R. Liquor. Hydrarg. Bichlorid. corrosiv. (Pharmac. Borus.)  $\frac{3}{4}$  jss;  
Vini Semin. Colchici,  $\frac{3}{4}$  ss.—M.

S. Thirty to sixty drops every two hours.

Cases requiring the latter dose were extremely rare. (The Liq. Hydrarg. Bichlorid. corros. of the Prussian Pharmacopœia contains corrosive sublimate and hydrochlorate of ammonia, one grain of each to the ounce of water.) Each dose of the medicine should be followed by a draught of the decoction of the Species ad Decoctum lignorum; (the species ad decoct. lignor. consists of Guaiacumwood, two parts; Lappa, and Saponaria, one part of each; Liquorice-root and Sassafras, half a part of each. One ounce of this mixture is used to a pint of water.) There is about one-thirtieth to one-fifteenth of a grain of sublimate given in each dose, a quantity which is generally well borne by the patients. In order to assist the cure, Dr. Burdach sometimes ordered the local application of veratria ointment, but in the generality of cases it could be dispensed with, as the sublimate acted promptly enough without it. In very sensitive patients, acetic acid, chloroform, or tincture of opium, might be added to the given formula; such an addition, however, is not to be recommended.

To obtain the prompt action of the remedy it is absolutely necessary to give it in fluid form, and at the intervals prescribed above, for in the form of pills it seems to exercise but little control over the disease.—[*Medizinische Cent. Zeitung*, and *North Amer. Med. Chir. Review*.

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Cataract.

THE Question was asked at the Congress of Brussels, (*Bulletino della Scienza Mediche*), "Has experience established that certain forms of cataract are curable without an operation? If in the affirmative, what are the means which may be substituted for the surgical?"

If by the word cataract, is meant *spontaneous* opacity, (or happening under the influence of some cause, the action of which is up to the present unknown,) which comes on more or less rapidly, in the substance of the crystalline lens, it may be answered without hesitation: No, there does not exist in the annals of science, a single authentic fact to show that a cataract has ever diminished or been arrested in its development under the influence of any medical treatment whatever.

If it is denominated cataract, the opacity of the crystalline, which is a consequence of a traumatic lesion, there exists demonstrative facts, that antiphlogistic treatment instituted with energy, has arrested the development of this opacity, prevented the extension of it, or caused it to diminish when already very extensive.

If finally the word cataract is extended to the opacity of the capsule, which in the immense majority of cases, not to say in all, are deposited only consecutive to an inflammation of the iris, or of the membrane of the aqueous humor, experience has demonstrated that the opacity may frequently be removed by treatment adapted to the latter affection.

What is the utility of closing the eye-lids in diseases of the eyes? What are the affections which require this closure, and what is the best mode of effecting it?

The objects of closing the eye-lids are to secure immobility of the palpebræ, to secure the globe of the eye from the action of air, and the foreign bodies suspended in it, to contain it, or restrain its movements to favor the action of remedies, by prolonging them in contact with the oculo-palpebral apparatus, and finally, to allow the maintainance, at will, of a uniform temperature.

To these various ends, it may be useful in ulcers and perforation of the cornea; in the protrusion of this membrane, and hernia of the iris, in recent staphylomas, in ophthalmoptosis, and after certain operations on the eye, such as puncture and the operations for staphyloma, cataract, artificial pupil, etc.

Finally, much advantage may be derived from it in ectropion; in wounds with loss of substance of the external superfiice of the palpebræ.

The best process for performing it, is that which corresponds most closely with the following conditions: To fix the eye as

far as possible in a state of repose, and diminish in the same degree the friction between the globe and lids; to contain it moderately, uniformly, and in a manner not to produce any pain; not to concentrate too much heat in the eye; to be able to renew it at pleasure, and without trouble or embarrassment, to allow exit to liquids employed in treatment, and to normal and pathological secretions.—[*Pacific Med. Journal.*]

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*Hypophosphite of Quinine.*—*A New Remedy proposed by J. LAWRENCE SMITH, M. D., Professor of Chemistry, University of Louisville.*

THE recent recommendation by Dr. Churchill, of the use of the hypophosphites in the treatment of phthisis, is now undergoing a general test by the medical profession; and so far as reported upon, there appear to be different opinions in regard to their efficacy. Some speaking of them with much praise, while others see but little benefit from their use. In one thing all agree—that no injurious effect arises from their administration.

From my own observation and inquiry, patients using the hypophosphites, either in their solid form or their Syrup or glycerole, have experienced marked relief from many of the annoying symptoms attendant upon phthisis.

The special object of this note, is to bring to the attention of the medical profession, a new combination of hypophosphorous acid, which I have lately had made at the Louisville Chemical Works, namely, the *hypophosphite of quinine*.

It was first made by adding an excess of recently precipitated quinine, to a hot solution of hypophosphorous acid, and on cooling, the salt crystallizes out in beautiful silky tufts, which, when dry and broken up, resembles asbestos in appearance. The method adopted and proposed for making it on a large scale, is by double decomposition; using the sulphate of quinine and the hypophosphite of baryta, the operation must be conducted so that there shall be no excess of either salt in the solution; the solution is filtered from the sulphate of baryta, concentrated and allowed to crystalize, which it does in the manner already mentioned.

The salt thus obtained, is in delicate fibrous crystals, soft to the touch; they are of a beautiful silky lustre, very soluble in hot water; one ounce of cold water at 60° Fahr., dissolves 8 grains of the salt. When heated, it loses its water at about 230°. and at about 300° it turns brown and melts.

*Proposed Uses.*—If the preparations of hypophosphorous acid are useful in phthisis and analogous diseases, then its combination with quinine must be beneficial in those phases of these



diseases where quinine is at all recommended. I would therefore suggest its use in the hectic fever of phthisis; also as a tonic in the same disease; also in the various forms of cachexy where quinine is used.

Nor ought its use to stop here, for owing to its solubility in water, it can be readily administered in that menstruum, (say 5 grains to the ounce of water,) thus becoming useful for children, and also in compounding, where the presence of an acid is objectionable, as is now necessary in dissolving the sulphate. In the form of a pill, it would be more soluble in the stomach than the sulphate.

With these few hints, I leave the article to the medical profession to be fairly tried, feeling confident that its solubility alone will be sufficient to make it an important addition to our materia medica.—[*Louisville Med. News.*

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*On Compression of the Aorta in Uterine Hemorrhage.* By Dr. SPIEGELBERG.

M. SEUTIN, of Brussels, in a communication made to the Berlin Obstetrical Society, proposed what he termed a new method of arresting uterine hemorrhage, viz., the compression of the aorta, a procedure which he described as both easy of execution and certain of success. Of course, in a society of obstetricians, the pretension to novelty was soon disposed of, and the communication only calls for notice as having induced Dr. Spiegelberg to make some remarks condemnatory of the practice. That compression of the aorta will arrest uterine bleeding, he has convinced himself by many experiments; but the explanation of this is not due to the fact that all blood is thus prevented entering the uterus. The instant we divide the arteries conveying blood to the uterus, its muscular fibres contract, and the organ becomes diminished in size. Every one knows that such contraction will arrest hemorrhage. Dr. Spiegelberg has several times observed these remarkable results in both pregnant and non-pregnant animals; and has found the same consequence follow compression or ligature of the aorta, when it has passed the diaphragm. If, therefore, compression of the aorta, thus excites powerful contraction of the uterus, it should evidently be an appropriate means for arresting hemorrhage, but the author's experiments show that for such compression to be of use, it must be permanent, the uterus distending again, as soon as the calibre of the artery becomes unobstructed. But on a living woman, compression could not be kept up continuously long enough to secure permanent contraction. Moreover, the aorta cannot be so completely compressed through the abdominal

parietes, even immediately after delivery, as it can in animals when the cavity is laid open. So that, however surely we may seem to exert compression, some blood will always gain admission. Again, the closure of the aorta cannot be effected in women as in animals, just below the diaphragm, but only after the large vessels of the intestines, and the renal and spermatic arteries have been given off; from which vessels the organ may obtain an abundant supply of blood. Lastly, the compression employed will also close the vena cava inferior; and the speaker's experiments and observations have convinced him that in such a case contraction of the uterus will not take place—the organ remaining then gorged with blood and relaxed. Indeed, it would *a priori* be expected that if the return of blood from the organ be obstructed, the vessels would become distended, and the open state of their orifices after birth would allow of the escape of their contents. This explains the case in which R. Lee and Schneemann have observed the hemorrhage *increased* after compression of the aorta. Dr. Spiegelberg, therefore regards the practice as destitute of a physiological basis, and of no practical utility; and he agrees with Dr. Schneemann, in considering the cases which have been seemingly benefited by it, to be really examples of excitement of contraction induced by the friction of the uterus made during the attempts at compression of the aorta.—[*Monatsschrift für Gebartskunde*, and *Medical Times and Gazette*.

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*On the Origin of Flexions of the Uterus.* By Prof. VIRCHOW.

VIRCHOW sums up his very elaborate treatise on the mode in which flexions of the uterus originate, in the following propositions:—In the history of flexions we may distinguish three different periods: one of mere predisposition, one of simple flexion, and one of flexion complicated with different inflammatory processes.

The predisposition is frequently created by partial peritonitis; it manifests itself by attacks of the nature of colic, and is at least somewhat lessened by early attention.

Long-continued retention of the urine and of the *fæces* favors the formation of flexion, particularly at the time of menstruation, the puerperal state, etc., and is, therefore, to be carefully avoided. Enlargements of the uterus, particularly if connected with relaxation of the organ, can increase the flexion very rapidly, while the removal of these conditions, for instance in chronic endometritis, may diminish the flexion to a considerable degree. It is, therefore, of great consequence to keep careful watch over the menstrual and puerperal periods, and to allay catarrhal in-

flammation of the uterus by antiphlogistic treatment and other means.

It is very questionable whether antiflexion can be completely removed; in retroflexion a cure may be attempted. If the flexion is complicated with consecutive affections, particularly with endometritis or perimetritis, a persistent and careful local treatment is requisite. Endometritis may be removed by it; perimetritis, on the contrary, produces adhesions of the uterus, which confirm the flexion more and more the longer they exist, and render it almost impossible to correct the position of the organ.—[*Allgemeine Wiener Medizinische Zeitung*, and *North Amer. Med. Chir. Review*.]

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*Hydrochlorate of Ammonia in Neuralgia.*

MR. H. C. BRENCHLEY, Surgeon to the Brighton Dispensary, relates (*Lancet*, Oct. 16, 1858,) the following case to illustrate the efficacy of hydrochlorate of ammonia in neuralgia.

A young man, aged 23, unmarried, healthy, and without any other apparent complaint, had long suffered from very severe attacks of neuralgia of the face, coming on at intervals of about one month, and lasting from two or three days to a week. It sometimes came on on one side of the face, and at other times on the other side. During one of these attacks I saw him, and ordered him quinine and arsenic, which put an end to the attack for the time. After the lapse of a month or six weeks, he had a second attack, which was cured in the same way. A third attack, however, came on after a shorter interval. This time the quinine and arsenic failed to relieve him. On the third day, when I saw him, he was in great agony, propped up in bed, and unable to do anything from the severity of the pain. The left side of his face was swollen, flushed, and hot, the temperature considerably higher than on the right side; the heat also of the inside of the mouth was so great that I expected I should find matter forming from decayed teeth; but, on examination, I failed to do so.

I now tried the much-vaunted remedy—the valerianate of ammonia, but without any effect. The usual remedies having failed, I gave him the hydrochlorate of ammonia, in doses of half a drachm every hour, in camphor mixture. I saw him three hours after he had commenced this treatment, and found he had been much relieved after taking the second dose; and, having taken the third dose, he was almost free from pain, and begged to be allowed to continue the remedy. The heat and flushing of the face had subsided, and the temperature of the mouth considerably reduced, feeling quite cool after the burning heat of its former state. He went on for three or four days with the reme-



dy, in doses of fifteen grains, three times a day, although there was no return of pain. Three months have now elapsed, and he has had no relapse.

The *modus operandi* of this medicine is not very clear; but whatever other specific virtues it possesses for the cure of neuralgia, in this particular case it evidently acted as an indirect sedative by lessening the arterial action; for the first and most striking effect of the medicine was the rapid lowering of the temperature of the mouth and face. From further observation, I have found that this remedy is most useful in those cases of neuralgia which are attended with heat and swelling.

[*American Jour. of Med. Sciences.*

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*Observations on the Treatment of Diphtheritic Angina and Laryngitis in Children.* By Dr. HAUNER.

BOTH diseases occur only in feeble children, debilitated by previous diseases, mostly, however, in such who have suffered either recently or some time previously from an exanthematous disease. Diphtheritis is contagious, and can be transmitted from sick to previously healthy children; it may become fatal by general infection, pyæmia, or loss of strength, as well as by propagation itself to the larynx, bronchi, and lungs. That treatment will alone be successful which endeavors to stop the progress of the diphtheritic process to important organs, anticipating it, as it were, by local means, and which tries to strengthen the constitution by internal remedies. The antiphlogistic treatment is decidedly obnoxious. Of all local remedies the author considers nitrate of silver the most efficient; he applies the caustic in substance to the diphtheritic layers in the mouth, on the uvula, throat, etc., and takes care to carry the application somewhat beyond the diseased surface. Instead of the stick, a strong solution of nitrate of silver (ʒj-3ss to ʒj of distilled water) may be used. In regard to the prophylactic value of this local treatment the author observes, that he has not seen a single case of diphtheritis of the mouth and throat in which the disease spread and reached the larynx after having been thus treated. But even in diphtheritic croup, nitrate of silver is useful in combination with the internal treatment; the application is, in this case, made by means of a whalebone probang having a pencil of charpie attached to its extremity, or finely-powdered lunar caustic (gr. iij-iv) quickly blown in through a quill, the tongue being depressed by a spatula. In some cases the author prescribed, at the beginning of the disease, an emetic of ipecacuanha, and found it decidedly useful. In regard to the internal treatment of diphtheritis, it is particularly necessary to enjoin a generous diet, (good broth, Liebeg's extract of meat, coffee, beer,

wine, etc.) The best internal remedy is quinia, given with alternate doses of chlorate of potassa, (3ss-j to ʒiij-iv of distilled water;) the latter remedy exerts a very favorable influence upon the local diseases of the mouth and throat. A useful adjuvant in the treatment of diphtheritic angina and laryngitis is the local application of moist heat by means of compresses soaked in water, and covered over with a dry linen cloth, or other material to retain the heat and moisture. The author finally cautions against the treatment of diphtheritic croup by bleeding, mercurial ointment, calomel, tartar emetic, etc. By making a careful examination of the patient, and by taking the constitution and the previous history of the child into consideration, it will not be difficult to distinguish diphtheritic from true laryngeal croup.—[*Österreichische Jahrbücher für Kinderheilkunde*, and *North American Med. Chir. Review*.

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*On Labial Cancer.* By Professor RIBERI.

IN a notice of the forthcoming third volume of Professor Riberi's "*Lezioni Orali*," an account is given of his experience with respect to labial cancer at the Turin Clinic. The *ages* of the 81 patients were as follows:—2 between twenty and thirty, 3 between thirty and forty, 11 between forty and fifty, 28 between fifty and sixty, 20 between sixty and seventy, and 17 between seventy and eighty. Of these, 69 belonged to the *peasantry* class, a predominance perhaps attributable to their unnutritious food, their abuse of peppers, garlic, vinegar, and the like condiments, their neglect of personal cleanliness, and their exposure to vicissitudes of the weather. Another predilection of the disease was for the *male* sex and the *lower* lip, inasmuch as only three of the cases occurred in women, and in only four instances was the upper lip affected, two of these occurring in men and two in women. In all but one patient the sanguineous temperament was manifested in a greater or less degree, showing the influence of the conditions of the blood-vessels and of the blood in this disease as compared with that of the nervous system. In seventy-six of the subjects the constitution was good, robust, or even athletic. This confirms the observation made by Pravaz, that the general belief is erroneous which supposes that lymphatic, delicate, cachectic constitutions, are most liable to cancer. Persons become cachectic and enfeebled as the disease advances, as its result, not as its cause.

In most of the patients an unhealthy state of the skin prevailed, and there were few cases in which some complication was not observed, arising from disturbances of the respiratory or circulatory organs, varix, varicose ulcers, chronic gastro-hepati-

tis, pellagra, etc. After awhile the *glands* in the vicinity enlarge, and it is of importance to determine whether their increase be merely sympathetic or symptomatic of invasion of the disease. In the former case, a single gland only usually becomes enlarged, being of recent origin, round or oval in form, movable, and liable to spontaneous changes in size; it is painful and tender to the touch, the skin being warmer than usual, and in some cases slightly reddened. In symptomatic enlargement, two or more glands are almost always affected, large and indurated lymphatic cords stretching between them, and often down the side of the neck. After awhile, the glands may acquire a large size, assuming an irregular form, becoming more or less fixed at their base, being but slightly movable, and not undergoing spontaneous change in size.

Before proceeding to the operation, M. Riberi submits his patients to hygienic and medical treatment calculated to relieve any complication or subdue any inflammatory action that may be present. Some cases of canceroid would indeed be cured by such procedures had the patients sufficient patience to await the result. Believing the employment of caustic mischievous in almost all other forms of cancer, M. Riberi regards them as of great utility in epithelial cancer, especially of the face, when the base is small enough to admit of its entire destruction. But as the tissue of the lip is very soft and yielding, and cancer soon sends widely-spread roots into it, and as patients usually do not apply until the lesion has thus become extensive, the employment of caustics is not admissible. Moreover, considerable deformity may result from its application, and an aggravation of the disease may be produced when the whole has not been extirpated. The operation with the V incision, having its base toward the labial edge, and conjoined when necessary with cheiloplasty, is that to which Professor Riberi gives the decided preference. He enters into considerable details upon this part of the subject, for which we have not space. Whatever form of the operation be adopted, he insists upon the necessity of removing during its performance all glands that may be symptomatically affected.

Of seventy-eight persons operated upon, seventy-three left the clinic cured; some of these, however, returned at the end of more or less long periods suffering from other cancerous diseases, two succumbed to a reproduction of the disease while in the clinic, and three died after the operation from causes not connected with it. The following are the conclusions drawn from a consideration of the cases of eighty-one patients:—1. The disease almost always commences as epithelial cancer or epithelioma of the skin or mucous surface of the lip, spreading thence to the parenchyma, and very rarely begins in this last, extending thence to the surfaces. 2. The skin is almost always



primarily affected, and only in some rare instances by morbid diffusion from the mucous surface. 3. Although very frequently unaffected at first, the mucous membrane becomes almost always implicated in the course of the disease. 4. The cellular tissue of the parenchyma is always simultaneously affected, as are very frequently the mucous and sebaceous crypts, to the great number of which in the lips Benjamin Bell attributed the frequency of labial cancer. 5. The muscular tissue is sometimes unaffected, sometimes participates slightly in the disease, and in some cases is so involved as to become entirely destroyed. 6. Whatever our nosological distinctions may be in respect to the species of cancer, nature shows how ill founded they are, by exhibiting more than one of these together; but facial cancers are those in which this junction is seldome observed.—[*British and Foreign Med. Chir. Review.*]

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*Observations on the Changes of the Urine in Diseases.* By Dr. BRATTLER.

Dr. Brattler has made a series of very accurate investigations on the changes of the Urine in typhus, morbilli, scarlatina, diseases of the heart, etc., which he laid down in an elaborate treatise, entitled "*Beitrag zur Urologie in Kranken Zustande*;" München, 1858, Joh. Palm's Hofbuchhandlung.

The author gives the following summary of his urological observations:

Casting a retrospective glance upon our investigations and experiments, we find that the urine does not suffer in disease any changes peculiar to the different morbid conditions, but that these changes are in relation with definite processes going on in the organism. The urine of a case of typhus, pneumonia, cholera, or Bright's disease, may have one and the same qualities, for the very reason that certain processes, which modify the secretion of urine, may take place in any of these diseases.

*The Quantity of Urine.*—It is diminished: In the commencement of nearly all febrile diseases; in diseases of the kidneys, when the uriniferous tubules are obstructed (*morbus Brightii*.)

In diseases in which the organism suffers great losses of serum, as excessive diarrhoea, cholera, copious perspiration.

In diseases of the circulatory and respiratory organs, in consequence of which less blood is furnished to the aortic system, and therefore to the kidneys, as disease of the heart, and pleuritic exudation.

It is augmented: By the resorption of hydropic effusions and exudations.

In polydipsia, diabetes insipidus.

*Urea*.—It is diminished: In the convalescence from all acute diseases, in which the organism has suffered a considerable loss of substance through fever, as in this case the nourishment carried into the system is used for the reparation of the lost nitrogenous tissues.

In diseases of the digestive organs which hinder the resorption of the ingesta, as chronic vomiting in atrophy after typhus, and cancer of the stomach.

In diseases of the kidneys, interfering with their functions (*morbus Brightii*.)

In diseases of the circulatory and respiratory organs, in consequence of which less blood is furnished to the aortic system, and therefore to the kidneys.

It is augmented: In all diseases accompanied by fever, viz: by elevation of temperature. (The frequency of the pulse bears no constant relation to the secretion of urea.) The secretion of urea is the greater the higher the temperature rises.

An exception takes place only when in febrile diseases the function of the kidneys is at the same time interfered with, be it by diseases of these organs themselves, or secondarily by the influence of other organs.

In diseases in which the urea has been retained for a long time in the blood by functional disorder of the kidneys, after removal of the difficulty, as *morbus Brightii*, cholera, and disease of the heart.

By the resorption of hydropic effusions, as *morbus Brightii*, and dropsy from disease of the heart.

*Chlorides*.—They are diminished:

In all diseases in which exudations or transudations take place, these effusions being rich in chlorides, as typhus, pneumonia, pleuritis, Bright's disease, cholera, acute rheumatism, etc.

In the diseases of the digestive organs which hinder the resorption of the ingesta.

In diseases or functional disorders of the kidneys with diminished urinary secretion, as Bright's disease, and disease of the heart.

They are augmented: By the resorption of hydropic effusions.

*Phosphoric Acid*.—It is diminished:

In diseases or functional disorders of the kidneys with diminished urinary secretion, as Bright's disease, and disease of the heart.

In diseases of the digestive organs which hinder the resorption of the ingesta.

It is augmented: In acute febrile diseases by the increased metamorphosis of tissues containing phosphorus.

The increase of phosphoric acid is, however, not as constant as that of urea. In diseases in which the phosphoric acid has

been retained for a long time in the blood by functional disorder of the kidneys, after removal of the difficulty, as Bright's disease and cholera.

According to Bence Jones, in acute nervous diseases, and in osteomalacia.—[*Medicinische Central Zeitung*, and *Virginia Med. Journal*.

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*On Inflammation of the Fallopian Tubes as a Cause of Puerperal Peritonitis.* By PROF. E. MARTIN.

IN one of the meetings of the *Gesellschaft für Geburtskunde* of Berlin, Professor E. Martin gave a very interesting lecture on inflammation of the Fallopian tubes as a cause of puerperal peritonitis. An experience of many years has convinced Prof. Martin that—with the exception of severe injuries of the genitals during the act of labor, which may cause the death of the patient in different ways within the first few days—the most common cause of death among lying-in women is pyæmia and emboly, which may be either produced by thrombosis of the veins of the uterus and of the vagina, or by the reception and generation of pus in the lymphatic vessels of the genitals, and which give rise to fever and a great variety of symptoms.

Besides this kind of puerperal disease, the author has, however, observed another less frequent, but just as fatal a one, which depends upon a *propagation of the endometritis into the Fallopian tubes, and an effusion of the purulent products of this salpingitis into the peritoneal cavity*. This effusion of the contents of the Fallopian tubes into the cavity of the abdomen is followed in most cases by fatal peritonitis. In spite of the open abdominal end of the tubes, their contents are not generally discharged at once into the peritoneal cavity, but only after some unusual movement, etc., during which the abdominal muscles contract and press upon the tubes; this is easily explained by the fact that the external portion of the canal of the tube enlarges itself into a sinus as soon as fluids accumulate within the tube. According to the author's opinion, the metrosalpingitis observed in lying-in women, does not always originate first during confinement, but sometimes during pregnancy, and occasionally even previous to that. One of the principal circumstances which speak for the long existence of the catarrhal inflammation of the tubes, is the considerable enlargement and textural change of the canal, as the author has observed it in all his cases in which a post-mortem examination was made; also in unimpregnated women Prof. Martin has observed this affection; it was then the consequence of a metritis produced by a gonorrhoeal infection; after the painfulness of the vaginal por-



tion had disappeared, and nothing remained but a muco-purulent discharge, a lively pain was again felt in the depth of one or the other inguinal regions (without there being any swelling of the adjacent ovary perceptible;) this pain was increased on pressure; it generally yielded to the application of leeches, cataplasms, and tincture of iodine. As adhesions of the tubes to neighboring organs are a post-mortem appearance, frequently found in prostitutes, there is good reason to assume that salpingitis often occurs in consequence of sexual excitement, particularly if the latter is combined with infection.

As regards the symptoms of metrosalpingitis, the principal one, in the acute form of the disease, is pain; this is of pretty intense character, and is felt in both inguinal regions, if the disease exists on both sides, as it usually does. The seat of the pain offers the principal reasons for suspecting the presence of the disease, and, by resorting to the method of exclusion, this diagnosis may be rendered more probable. Sometimes it is possible to feel on external, but particularly on internal exploration, the swelled and enlarged tubes in the form of oblong rolls. The disease under consideration requires, however, during the first days of confinement, the greatest precaution in making palpation, as each strong pressure is connected with the danger of effusion taking place into the peritoneal cavity; it is, therefore, often necessary to be satisfied, under these circumstances, with an only conjectural diagnosis.

The prognosis of metrosalpingitis in lying-in women is not unfavorable as long as the products of inflammation remain in the cavity of the tube, as a part of them may be removed by absorption, while the rest becomes concrete; there are also, in the generality of cases, adhesions formed between the respective tube and the neighboring organs. Both these changes are generally followed by sterility. In connection with this subject, it is well not to overlook the possibility of the products of exudation undergoing tubercular degeneration; in fact, tubercular masses are more frequently met with in the Fallopian tubes, than in any other part of the female organs of generation. Sometimes, when the abdominal opening of the tube has been closed by adhesions, dropsy of the tube follows. With all this, life may continue for a long time, although it may be accompanied by various troubles, arising principally from the incurable changes of form and position which the internal genitals have been subjected to. Sometimes, finally, after the dilated tube has formed adhesions with the abdominal parietes, its secretion may be discharged externally, and thus health may be restored to some degree. If the contents of the dilated tube are effused into the peritoneal cavity, the preservation of life seems to be possible only when the secretion is not of a puru-

lent, but of a mucous character, and when the consequent peritonitis remains confined to a certain locality. Of this, the author has convinced himself in several cases, in which, on the post-mortem examination of individuals who had suffered, many years before their death, from puerperal peritonitis, membranous adhesions of the tube and of the ovary were found confined to only one-half of the cavity of the pelvis.

The treatment of metrosalpingitis in lying-in patients must be antiphlogistic; the principal condition for recovery is, of course, long-continued rest in one position, and the avoidance of every movement requiring exertion.—(*Monatschrift für Geburtskunde*, and *North Amer. Medico Chir. Review*.)

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## EDITORIAL AND MISCELLANEOUS.

**ACTION OF QUININE.**—In a series of Clinical Lectures on the Pathology and treatment of Dysentery, delivered at Jackson Street Hospital, to the Medical Class of 1857-8, and published in our 14th volume, the Junior Editor of this Journal, stated distinctly the proposition that, "*Quinine exercises its primary action upon the middle or fibrinous coat of the Bloodvessels, and that upon its influence in that tissue, all its observed effects depend.*" The essay from which we make the following extract, is too lengthy for publication entire, at the present time; we therefore furnish to our readers, the several propositions which have been argued in full, and strengthened both, by illustrative experiments and clinical observations as set forth in the paper itself.

**QUININE.**—*The Fibrinous Coat of the Bloodvessels—the seat of its ultimate Therapeutical action.* By Robert Campbell, M. D., of Augusta, Georgia.

The following Propositions form the basis of an essay presented by us to the Medical Society of the State of Georgia, April 10th, 1859, and ordered for publication.

### PROPOSITIONS.

- 1st. That Quinine does *not* act *primarily* upon the Nervous System.
- 2nd. That its effects upon the Nervous System are *neither* those of a *Stimulant* nor *Sedative*.
- 3rd. That its manifest, uniform phenomena are at variance in character with those of any known neurotic.
- 4th. That there is no concordance between the degree of its *apparent* influence over the *Nervous* System, and the size of the dose—as obtains with all neurotics.

5th. That its phenomena are varied in character and degree, more in accordance with an associate condition of the *vascular*, than of the nervous system.

6th. That its action is *primarily* exerted upon the VASCULAR SYSTEM, by a specific agency directed to the *fibrinous* coat of the vessels, and having the power of condensing or contracting that tissue—probably by chemical union with its elements, similar to that of the vegetable astringents. By virtue of this property, it overcomes all engorgements of the vascular system—*by constringing the vessels*. Thus, it relieves entirely or partially, all those diseases which depend upon engorgement, resulting from vascular exhaustion or debility, such as would proceed from relaxation in the middle coat—whether occurring in a vascular organ, as Lung, Spleen, or Liver—or in a nervous centre, as Brain, Spinal Marrow, or Ganglion.

7th. That this interpretation is the only one which can furnish a satisfactory explanation of the phenomena consequent upon the administration of Quinine.

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FORTHCOMING MEDICAL WORK.—We are pleased to see by the following announcement, that our whilom contributor, Dr. John Stainback Wilson, of Columbus, Ga., is engaged in the preparation of a useful work. From the present notice it appears, that the book is to present a popular, as well as a professional aspect. We are too well acquainted with the high principles which control our valued and able correspondent, to have the least fear that he will compromise himself or his profession in any particular, even under the most trying and delicate circumstances. Without seeing a line of his manuscript, we cordially wish him abundant success:

“*Woman's Home Book of Health*.—As our previous notice of the work in preparation by Dr. Wilson, of this county, has been quite extensively copied by the press, and as many may have been led into the belief that the work will consist of a mere compilation of the articles on Hygiene furnished by Dr. W. for the Ladies' Book, we give the title in full: ‘*Woman's Home Book of Health: A work for Mothers and Daughters; on a Plan, New, Safe and Efficient, showing in plain language how diseases may be Prevented and Cured, without the Use of dangerous remedies: Embracing, First: A brief Description of the Structure and Functions of the Human Body. Second: A full Exposition of the Laws of Health and the Means of Preventing Disease. Third: The Causes, Symptoms and Treatment of the principal Diseases of Women. Fourth: Midwifery, and the Diseases and Accidents of Childbed, &c. &c. With a Chapter on the Management of Infants.*’ It will thus be seen that the work will be quite comprehensive; and as just such a book as this is much needed, and as the announcement of its forthcoming has



met with the most flattering reception in various quarters, we predict for it decided success, and hope that it will not be long before its publication."

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*Journal de la Physiologie de l'Homme et des Animaux*, Published under the direction of Dr. E. Brown-Sequard.

The first volume of this valuable Journal, is just completed, and the four numbers of last year make an elegant and most instructive book of 850 octavo pages.

No one perhaps, but Dr. Brown-Sequard could have projected or so well sustained an enterprise, at once so novel, and seemingly so forlorn, as that of a Journal devoted in the present age, we may say entirely, to Physiology. His energy, great experimental resources, and his wide spread reputation on the two continents, have contributed largely to secure for this Journal an abundant success. Almost every number of the volume just closed, is enriched by lengthy papers from the pen of the able and indefatigable editor, while such men as Dr. Claude Bernard, Dr. Charles Robin, Dr. Charles Rouget, M. Ollier, and others of nearly equal reputation, discuss in profound and lengthy communications, all of the most interesting and obscure Physiological Questions, of the present rapidly advancing age. The Secretions, the Nervous System, the Blood, the regeneration of Tissues—deep questions in Pathology; indeed every thing relating to Biological Science, find place in the pages of this splendid work. Books are not the places to read and *keep up* with any department of science. The knowledge of books is always at least one or two years old, it has nearly all been put forth in journals, and *The Journals* are really the true source for a progressive man in this progressive age, to go and seek his knowledge. Otherwise, when he has just risen from the perusal of the very latest and newest leather-bound work, in some particular department, congratulating himself that he has reached the utmost boundary of the researches about which it is conversant, he will find himself, but only on the frontier, that a large country stretches out before him, which has been cleared, leveled, and builded on, even while he was toiling through the ponderous tome. All this is done in *journals*. Journals are the true chroniclers of Science as they profess to be. Is it not a wonder, that not until now, with all the rapid advancement made in the department of Physiology and Pathology, no well sustained journal has had place in Medical Literature? Perhaps it is best that it has been so; several failures might have settled the impracticability of the work and have discouraged even the energy and daring enterprize which has now, so ably entered upon it.

To those of our readers who have not subscribed to the first volume, we now say that, at this moment, they have an opportunity of subscribing for the second, just opening with the initial number. The work is published in Paris, but for the convenience of American subscribers, an American Agent has been appointed in New York, who will promptly attend to the regular transmission of the work. Messrs. B. Westermann & Co., 440 Broadway, New York, are the American Agents.

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#### REMOVALS, CHANGES AND DEMISES.

A full history of the changes in the Journal Literature of our country, would occupy far more space than we can afford, yet we deem it a duty to our readers as well as a proper courtesy to our *Confrerés*, to record all important changes which they sustain during the year.

We have already noticed the change in the *New Jersey Medical and Surgical Reporter*, from a Monthly Journal, edited in Burlington, N. J., to a Weekly, and its transfer to Philadelphia. Dr. S. W. Butler, its Senior Editor, has associated with him, Dr. R. J. Levis, of Philadelphia. The Reporter has been entirely metamorphosed in its appearance, much improved in its matter, and doubtless increased in its circulation and general prosperity.

Our valued confréré, Dr. Austin Flint, Jr., has removed to New York city. He still retains the Editor-ship of the *Buffalo Medical and Surgical Journal*, whose second number of Volume XV., comes to us under the lengthened title of *The New York Monthly Review of Medical and Surgical Science, and Buffalo Medical Journal*.

We suppose that this rather inconveniently long title, is but a temporary expedient resorted to, to retain old associations under the change of place, and will be continued no longer than necessary to a general understanding among its readers. This Journal has always been a favorite with us. We wish it the same abundant success under the above change, that it has heretofore enjoyed and deserved, under the more simple and familiar name of *Buffalo Medical Journal*.

*The Savannah Journal of Medicine*, is now conducted by our Friend Prof. Juriah Harriss, as Senior Editor; Dr. J. S. Sullivan having resigned that position, held by him for the last two years. In making the announcement, the present Editor remarks, "Our association as Junior Editor with him, has been most cordial and friendly, indeed such intercourse as a gentleman of high tone and intelligence, will ever guarantee to others in the Profession." Prof. R. D. Arnold will continue as Associate Editor of the Journal, while Dr. Sullivan is promised, as still a contributor to its pages.

*The Nashville Monthly Record of Medical and Physical Science*, has also undergone a change in a part of its editorial corps. Dr. Richard O. Currey has resigned his position of Associate Editor, while Prof. Daniel F. Wright will be hereafter assisted by Professors John H. Callender and Thomas L. Maddin, all of the Shelby Medical College. Professor Currey's resignation from the Journal is simultaneous with, and perhaps, consequent upon his resignation of the chair of Chemistry in Shelby Medical College.

The vacancy left by his resignation, has been filled by the appointment of Dr. Henry Erni to the chair. The above multiplication of laborers and division of labor, will doubtless add much to the usefulness of this already, valuable Journal.

*The Chicago Medical Journal* has, during the past year, undergone several changes. Its January and February numbers present the names of Drs. N. S. Davis and W. H. Byford, both of the Rush Medical College. In the March number, we find that the Journal is again conducted by its former able Editor, Professor Daniel Brainard, Professor of Surgery in Rush Medical College, and the same issue informs us of the resignation of Professors Davis and Byford, not only from the Journal, but in company with Professor Johnson, from their places in the Faculty also. The June number is impressed with the name of Dr. Edward Powell, Demonstrator of Anatomy in Rush Medical College, as assistant to Dr. Brainard. While we deeply regret the loss of Drs. Davis and Byford, we cordially welcome Dr. Brainard and Dr. Powell, into the ranks of our fraternity.

We regret to say that we have to record this *discontinuance* of several Journals, some of which have been valued exchanges for many years, others, of but more recent date.

*The Medical Chronicle of Montreal*, the only Medical Journal of the Canadas, has been abandoned by its able and heretofore indefatigable Editors, Drs. Wright and McCallum, for the want of support. Readers, money, or enthusiasm must be at a low ebb in the Provinces, that a single journal, and one so useful and ably conducted as the Chronicle, could not be supported in all that region. Although we have thus lost Drs. Wright and McCallum from our exchange list, we feel assured that the profession will still receive the benefit of their contributions through some other and more widely circulated and better sustained medium.

*The Maine Medical and Surgical Reporter*. This Journal begun in March of the present year, under the Editorial management and pro-



prietorship of Drs. W. R. Richardson and R. W. Cummings. We regret to say, that after a continuance of not quite a year, marked by decided ability in its editorial conduct, it has been obliged to suspend for want of patronage. "Tis not in mortals to *command* success;—they can do more, *deserve* it."

*The Philadelphia Medical and Surgical Journal*, and *The Louisville Medical Gazette*, are each suspended, very properly and justly disheartened that faithful, long and arduous labors, brought no adequate reward. We record these obituaries, one and all, with sadness of heart, and with a regret as in parting with old and much prized friends.

NIL DESPERANDUM!—Let retiring and disheartened laborers from any Literary field, remember; that they have not energized in an entirely barren soil, nor made their painful record in the shifting sand;—far from it. The result of their many years of hard toil, their "much study," their "weariness of the flesh," will still remain in the libraries and on the bookshelves of thousands of appreciating and admiring readers, who will still, in years to come, resort to them as valuable store-houses, whence to draw treasures of counsel and instruction. Obelisks of Granite, of Marble, and of Brass, endure through long ages, and, in their sphynxine mystery, puzzle the beholders, generation after generation. Temples, Porticos, Pillars, and Pyramids, are scarcely more than grand, crumbling enigmas, but half revealing the splendor and magnificence of mighty nations, long melted into the mould on which they proudly stood. But the *written page must still endure*. That magnificent record of God's will and man's inspiration, our Holy Bible, the Homer of antiquity, mythic and sacred through the long ages of their endurance, but grow brighter with each succeeding decade. How much longer do they last,—how much more plainly do they speak! Words are but breath—written language but ink intelligibly spread—paper and parchment are more perishable far, than even man himself—but oh, consoling thought, most comforting reflection! *The Ideas* which these words enwrap and which the ink and the paper chronicle, SHALL LAST FOREVER—for mind is more enduring than adamant, more permanent than brass, and lasting as the everlasting hills.

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MEDICAL AND LITERARY WEEKLY.—We have received the several numbers of this well conducted periodical which began its existence early in May last. The professed object of the work is certainly a very laudable one, viz: the extension and diffusion of medical knowledge, and correct medical ideas *among the people* and the discountenancing

of quackery. Each number contains a considerable amount of Medical and Scientific matter, such as is found in strictly Medical Journals, and which will be of interest to medical readers—but in addition to this, a large portion of the paper is devoted to polite literature and popular reading. We have noted the title of the Medical and Literary Weekly, upon our exchange list and wish its enterprising editors a full measure of success.

The work is published weekly in the city of Atlanta, and edited by V. H. Taliaferro, M. D., and A. G. Thomas, M. D. Price \$2.00 per annum.

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“HERE A LITTLE AND THERE A LITTLE.”—We have several times, in pleasant terms, called attention to the financial matters of this Journal. At each time, we have with pleasure acknowledged, that few periodicals can rejoice in a more promptly paying subscription list than our own. Each month, until recently, a long list of “credits” met our eye, and gratified our hearts, convincing us that our own labors are appreciated, and that our worthy Publisher, upon whom fall the entire pecuniary responsibility, and the most arduous toil, is not only “a laborer worthy of his hire,” but that, *that* “hire” is, upon a fair average, promptly rendered over. For some months past, however, these payments have lessened, to an amount quite inconvenient to him and rather discouraging to us. The toil and the labor continue unabated, but the *reward and the yield* of labor begin to wax low. Can it be that our “honeyed hints” are failing to entice “the flies?” And must we in despair, abandon our patent gentle method, for the more distasteful “vinegar” of actual dunning? With the July number, all unpaid accounts have been submitted to subscribers—some have responded and many have not. We now call attention to these missiles, and earnestly request, on behalf of our Publisher, a full and early response. “Here a little and there a little,” either in losses or in gains are, individually, unimportant, but in the aggregate, they often either sustain or embarrass the most magnificent enterprises. Let our “little and little” be on the side of receipts, and from what we know of the liberality of our Publisher, each succeeding year will only mark a steady advancement as heretofore, in the size, beauty, and value of this Journal.

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In a town of Wurtemberg, a Mr. Helgerad has established, with most perfect success, a printing house, which is carried on solely by 160 deaf and dumb individuals.—[*Cincinnati Lancet and Observer*.]

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Dr. Silas Durkee, of Boston, will bring out shortly, through Mr. Jewett, his publisher, a work on Gonorrhœa and Syphilis.—[*Ibid*.]

A NEW INSTRUMENT FOR VESICO-VAGINAL FISTULA. BY H. F. CAMPBELL, M. D., OF AUGUSTA, GA.—We have recently devised a pair of Forceps to facilitate the paring of the edges of the Fistula in the above operation. The principle applied, is that used by Civiale, and other Lithotritists in the construction of the Stone-Crusher; viz. the *Shoemaker's measure*. Messrs. Tiemann & Co., of New York, have made the Instrument for us, and we hope to present a clear wood cut of it and a detailed account of several successful operations in the September number of this Journal. Let the present notice be our *compte rendu*.

Augusta, Ga, July 16th, 1859.

*Tannin in Large Doses in Albuminous Anasarca.*—In an interesting memoir published in the Archives of Medicine, Dr. Garnier calls the attention of practitioners to the use of tannin in large doses, in the treatment of albuminous anasarca. In three cases which he reports, and which he has compared with analogous observations taken from several authentic records, Dr. Garnier employed with success the following formula :

|                 |   |   |   |   |            |
|-----------------|---|---|---|---|------------|
| R. Acid tannic, | - | - | - | - | gr. xxxij. |
| Aquæ distil.    | - | - | - | - | 3j.        |
| Syr. cinchon.   | - | - | - | - | 3j.        |

M.—S. a teaspoonful three times a day.

Dr. Garnier arrives at the following conclusions :—Tannin in doses of from thirty to sixty grains a day will cure anasarca or œdema passively developed and coincident with albuminous urine. Its curative action manifests itself by an abundance of urine, which gradually assumes its physiological character; by the cutaneous transpiration; by the easy alvine evacuations; by the appetite, etc. These favorable signs appear on the second day after the administration of tannin.—[*L'Union Médicale*, and *Jour. of Materia Medica*.]

*Citrate of Iron and Strychnia.*—Among the numerous contributions of modern chemistry to the materia-medica, we notice in the *American Journal of Pharmacy* a formula for what we are disposed to regard as a valuable preparation of the citrate of iron and strychnia—in the proportions of one of the strychnia to forty of iron. In appearance this salt resembles the citrate of iron, but in taste, besides the peculiar, slightly ferruginous taste of that of salt, it adds a moderate bitterness, due to the strychnia. Three grains is a dose, which may be increased or diminished according to circumstances, and it may be used in chronic nervous affection with debility, also in certain forms of chlorosis, &c. We have used the remedy in one or two cases, but are not prepared at present to pronounce on its merits; but would invite the attention of our readers to it, as it can be obtained from our drug dealers.—[*Jour. of Materia Medica*.]

*Easy Method of Extracting Foreign Bodies from the Eye.*—Dr. Léon Renard, in a note to the editor of the *Union Médicale*, describes the following method of extracting small substances which have become



lodged in the groove formed by the reflection of the conjunctiva from the upper lid to the sclerotic, and which often cannot be seen, even when the lid is inverted. The lid being seized at its angles between the thumb and forefinger of each hand, is to be gently drawn forward and downward, as far as possible, over the lower lid, and retained there for about a minute. On allowing the upper lid to return to its normal position, the flow of tears will carry off the foreign body, which will usually be found on the lower lid, or one of the lashes, or on the cheek. The writer states that he has often found this simple method of the greatest utility and convenience.—[*Boston Med. and Surg. Journal*.]

*Homœopathy not a Science—of course not.*—The great medical suit which has recently been decided in Paris, in which homœopathy was arraigned against the regular profession, after a full hearing, has gone against the infinitesimal gentry. The case was simply, the editor of the *Union Medicale*, sometime since, stigmatized homœopathy as a *pretended science*, and its professors as *charlatans*. Whereupon twenty-four homœopathic practitioners of Paris brought an action against the editor for libel. The trial involved the truth or falsity of the charge, and after a hearing of several days, the Court dismissed the action, and mulcted the homœopaths with the costs for their trouble. So that, according to the decision of the French Court, homœopathy is not a science, any more than any other tom-foolery of the age.—[*St. Louis Med. and Surg. Jour.*]

DR. THOMAS W. EVANS, of Paris, having made application to the Sardinian Government in regard to the medical and surgical wants of the Sardinian army, in view of the employment of American surgeons, the Minister of that government has responded to the effect, that while government appreciates the good feeling that prompted the offer on the part of the American surgeons, the wants of the Sardinian army are, for the present, supplied.—[*Med. and Surg. Reporter*.]

*The Woman who lives without Eating.*—There is no absurdity too great, no imposition too barefaced, no deceit too often exposed, for human credulity. The possession of the highest intellectual powers is no absolute protection against imposition. Men *will* be cheated. The more difficult a thing is to be believed, the more readily some people believe it. *Credo quia impossibile est.* When rational and sensible men (so considered) believe that a grain of charcoal—so infinitessimally divided that each individual of the human race could be supplied daily for ages with a portion—is capable of producing appreciable specific effects on the system, or that the spirits of the departed can and will communicate with surviving friends through the medium of ignorant and cunning men and women, who make a trade of their pretended powers, what more need we say on the subject? An illustration of this truth is shown in the story of Mrs. Hayes, who succeeded in making many people believe that she lived two years without eating, and without having an evacuation of the bowels or of the bladder. One of our correspondents paid a visit to this woman, and came away a firm believer in her pretensions. Another correspondent has sent us an elaborate article, explaining the

phenomena on physiological grounds, and making it quite plain that a human being might live two years without eating, and without fecal or urinary evacuations. Unfortunately for his ingenious theory, the fact it was intended to explain has been proved not to exist. On being watched, Mrs. Hayes was discovered regaling herself on crackers and beef! There is nothing very unusual in all this. Every physician has met with similar cases of attempted imposition by hysterical females; and the only remarkable thing about it is, that so many medical men should be deceived by a very common trick. Strange as it is, however, they will be deceived by it, again and again; and this natural susceptibility of human nature to imposture ought to make us charitable in our judgment of the frailties of others, not knowing when we ourselves may become the victims of delusion.—[*Boston Med. and Surg. Jour.*

*Conviction of an Abortionist.*—The second trial of the notorious Dr. David R. Brown has been brought to a close by a verdict of manslaughter. There is evidently a reluctance on the part of juries to convict in cases like this, where the offence is so very common. Either Dr. Brown was guilty of murder, or was innocent even of manslaughter. If he was justified in procuring an abortion, on account of the condition of the patient, or if she died in consequence of abortion supervening upon treatment intended for a different purpose, he ought clearly to be acquitted. If he attempted to procure abortion illegally, and the woman's death was the result, it is equally clear that he ought to have been convicted of murder. Under the present state of feeling on the subject, it strikes us that it would be almost worth while to mitigate the severity of the penalty, rather than allow so many criminals to escape scot free, as the majority do. When the penalty for forgery was death, in England, it was almost impossible to obtain convictions, and the crime became exceedingly common. As soon as the punishment was changed to imprisonment, forgeries were of more rare occurrence. We would suggest the propriety of changing the penalty for procuring abortion, from death to imprisonment for life.—[*Ibid.*

*Marking Papers.*—The Postmaster General decides that a pen or pencil mark, made for the sole purpose of attracting the eye to a particular article or portion of printed matter, does not subject matter to *letter* postage, as insisted on by *some* Postmasters.

*A King Fetching the Doctor.*—A few days ago, says a Munich letter, a female fainted in one of the streets of this city. An elderly gentleman, who approached the spot where she was lying, requested some of the persons present to go and fetch a medical man. They all replied that they knew not where to find one. "Well, then, (he said,) I will go myself." And in a few minutes he returned with a doctor, who applied the proper remedies. The kind-hearted old gentleman was King Louis of Bavaria.

We learn that Dr. Alfred Stillé has resigned the Chair of Practice in the Medical Department of Pennsylvania College, which he has filled with such distinguished honor to himself and advantage to the school.

# SOUTHERN MEDICAL AND SURGICAL JOURNAL.

(NEW SERIES.)

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Vol. XV.]

AUGUSTA, GEORGIA, SEPTEMBER, 1859.

[No. 9.

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## ORIGINAL AND ECLECTIC.

### ARTICLE XIX.

*Veratrum Viride in Chorea and other Convulsive Diseases.* By  
PAUL DELACY BAKER, M. D., of Eufaula, Ala.

QUININE in its early history, was known as an agent only valuable in paroxysmal fevers; in these latter days, of a more advanced Pathology and enlightened Therapeutics, its application has been so far extended, that in Southern latitudes especially, it has become almost equally a specific in many affections, not at all characterized by febrile action. Somewhat analogous, I believe, will be the history of *Veratrum Viride*.

The chief object of this communication, therefore, is not to set forth the value of this agent as a controller of arterial and vascular excitement; for, it is believed that this power is now recognised and conceded to it generally, by the medical Profession. Indeed, a consideration of this property would not be here entered upon at all, except for the reason, that the writer's attention has been recently attracted by an article, in which it was declared that "*Veratrum Viride* had seen its day," that its glory had departed!

Now, if this communication succeeds in recalling one wanderer from the path of truth, or induces one skeptic fairly to test the fact he disbelieves, then, will the writer be amply rewarded. His only object is the advancement of his profession, by de-



fending and sustaining the truths that render it a useful and glorious science.

Those who deny the virtues of the *Veratrum*, object to it, as they say, because, though it reduces the heart's action, it does not cure disease; and moreover, it is a dangerous remedy, which cannot be entrusted to nurses in general.

To the first of these objections, viz: that though the *Veratrum* controls the heart's action, it does not cure disease, it may be replied, that no Doctor nor remedy ever cured a disease; and that the only province of the one, or power of the other, is to lend assistance to nature, for it is she at last, who alone can work the cure; this is plain when it is remembered that disease is only perverted healthy action. Moreover, when one reflects and understands what an inflammation is, and properly comprehends its commencement, progress, and results, having a clear perception of the local changes, wrought by it, (which may be called the mechanical difficulty,) and an adequate idea of the necessarily irritable and excited state of the nervous system during its progress—it is indeed wonderful that he could throw aside, untested and uncared for, an agent which it is acknowledged has power to control the circulation; for, always let it be remembered and never forgotten, that *Veratrum Viride* controls the circulation by its sedative influence upon those nerves, whose “aberrated action” forces the heart and arteries into such an unnatural and dangerous turmoil; and this quieting of the great force-pump of the circulation, prevents the rushing current from impinging with destructive force upon the inflamed and suffering organ, and from too rapidly crowding globule upon globule, upon its already congested and stagnant capillaries, and thus, by affording what may be considered a mechanical assistance, gives the sanative powers of nature time and opportunity to remove the obstruction and work out the cure. Let it also, not be forgotten, that all the while the hitherto excited and irritated nervous system, is primarily calmed into normal quiet, and that consequently, all the workings of the organism, as they are under its “superintending influence,” must move on in their natural course; thus is it, that the equilibrium is restored, which ensures that harmonious order which characterizes and makes perfect, the grand and beautiful works of God.

Thus is it, that the *modus operandi* of *Veratrum* in inflammatory diseases, accomplishes all, and more, than can be claimed for the lancet. Venesection is alone beneficial in such cases, in two ways; first mechanically, by lessening and weakening the force of the circulating current, and thereby guarding against the dangers of its too frequent and forcible impulse upon the seat of inflammation; and secondly, by its sedative influence upon the nervous system, whose excitability is largely and irregularly developed, in proportion to the violence and extent of the phlegmasia; and under which condition of the nervous system, the bloodvessels, whose function is controlled by it, tend to continued and augmented action. But, let it be remembered, that the *Veratrum* accomplishes, as has already been shown, both these results, only in a far more safe, permanent and satisfactory manner. That this assertion may be proven to the unbeliever's mind, let the relative virtues of the two agents be tested by the touchstone of comparison.

The mechanical benefits of venesection are accomplished at the expense of an abstraction of a portion of the life's current from the body, the ultimate consequences of which waste is always to be deplored; in addition to this, the immediate advantages obtained by the operation are only temporary, since, whatever fluids may be subsequently taken into the stomach, pass directly into the circulation, and soon the bulk and force of the current is as full and strong as before, without, however, being as nutritive and sustaining.

On the other hand, the same advantages are attained by the action of the *Veratrum*, but in a different way; by its influence, the heart's action is simply held in check, and the force of the circulation reduced to nature's standard, every drop of the precious *pabulum vitæ* is preserved; and thus, after the storm is over, a more speedy and perfect convalescence is ensured.

The sedative influence of venesection upon the nervous system, is also too often merely temporary, and, in individuals whose nervous system is very impressible, is often followed by reaction to such an extent, as to produce an exaltation of organic action, even perhaps to a greater degree than before the operation. In such cases, the remedy is at an end, a repetition

of the bleeding would be dangerous in the extreme, as it would only increase the existing difficulty.

Even in persons who endure well the abstraction of blood, venesection is a remedy that cannot be persisted in. If it conquers, it must do so at a blow, which blow, though a victory, is yet, too often, like Pyrrhus' hard fought battle, almost a defeat, and a repetition of which, would result in utter vanquishment. On the contrary, the sedation procured by the action of *Veratrum Viride*, is perfect and without the danger of inordinate reaction, as the remedy may, without evil consequences, be continued for days, and, if necessary, even weeks, as is proven by my having, in a case of typhoid fever, with excessive arterial excitement, kept the heart's action controlled for thirty days, merely with the view of saving its machinery.

Let the question of the "danger" of *Veratrum*, be now considered. From a tyro-experience, I can readily comprehend how the idea might originate, and be, too, so impressed upon ones mind, as not to be easily eradicated. It was the writer's fortune soon after entering upon the practice of medicine, to have a case in which it was determined to test the efficacy of Norwood's tincture of *Veratrum Viride*, the object being to control the circulation. The subject was a lady laboring under a high grade of fever. The medicine was administered, according to the directions upon the bottle, by giving eight drops every three hours, increasing each dose by one drop, until the effects were produced. The result was, that suddenly and shortly after the third dose, there ensued the most distressing nausea and vomiting, together with frequent purging, (this last occurring from relaxation merely,) and a most excessive and alarming prostration—a degree of muscular relaxation, that seemed to portend a fatal collapse, and an icy coldness which simulated the chill of death itself—sorely was my mind oppressed, for I felt sure my patient was dying; terrible and afflicting was the grief and consternation of the family, one of whom gave free vent to her belief, that, the "Doctor had killed her mother." Friends and relatives were hurried for to see her die, but the tumult was, after a while, quieted, by the application of sinapisms, and a few portions of morphine and brandy, and the lady sank into a sweet sleep, with a soft, slow and regu-



lar pulse; the fever seemed jugulated, but after a lapse of eight or ten hours, the heart's action began to increase, and the fever was allowed again to develop itself, because, at that time, all the demands of Golconda could not have induced me to resort to the *Veratrum* again; I thanked God that my patient had not died, and resolved that, if ultimately she did not recover, she should expire under such circumstances, that disease should share with me the responsibility of her death. She recovered.

I have related the above experience, not only for the purpose of showing how a belief as to the danger of the *Veratrum* might originate, but also, because, from a constant recollection of the phenomena, produced by its action upon that occasion, and a continued reflection in reference to them, I have been taught much of the value of the remedy, its mode of administration, and its unequalled power to assist nature in working cures. I also record it, for the reason, that a recollection of it, suggested to my mind years after, that Therapeutical power, the publication of which, is the chief purport of this article. The above experience, corroborated by subsequent observation and experiment, has also taught me these additional facts, viz: that though to Dr. Norwood the honor and gratitude of the Profession is due and cheerfully rendered, for having furnished us with this most invaluable agent of the *Materia Medica*, yet, that the directions that he has labeled upon the vials, and which are to be found in the last editions of the U. S. Dispensatory, have done more to retard and prevent its employment, than any other thing. The doses mentioned, are too large for general use, and their effects have intimidated many practitioners, to the extent, that they refuse to administer it. And even when this is not the case, the nurse or family to whom its administration is committed, in consequence of their uneasiness and alarm at its effects, cease to give it with any certainty or regularity. The Physician consequently being disappointed in its results, leaves off the remedy, declaring that though it was pushed to the most distressing vomiting, it ultimately did no good. All this is the more probable, as the *Veratrum*, besides being exceedingly energetic, is also, accumulative in its effects. The truth of this, may be recognized, by the sometimes sudden and violent outburst of symptoms, as well as from the fact, that when the sys-

tem has once been impressed by it, its effects may be permanently retained by the occasional administration of a drop or two of the medicine, at long intervals. All these facts have convinced me, that when it is desired to continue the remedy for any length of time, it should be commenced in much smaller doses, and that so far from increasing the quantity each time, it should, on the contrary, be diminished, and the intervals even lengthened. In this way, the proposed result may, though slowly, be unfailingly obtained, without too, the slightest untoward symptom.

When I have twelve or fifteen hours to go upon, and desire to obtain the specific effects of *Veratrum Viride*, I usually administer it to an adult, in five drop doses every two hours, until two or three portions have been taken, after which, the interval is lengthened to every three hours. Before each and every dose, after the first, I always carefully note the pulse, and if it exhibits the least tendency to depression, the dose is diminished or the interval still further prolonged. This is done for the reason, that some constitutions are extremely susceptible to its action, as was the case of the lady already mentioned. This caution, is, however, preserved only to avoid unpleasant symptoms, and unnecessary alarm on the part of the patient and friends, and not by reason of any apprehension as to the danger of the remedy; for, I have been convinced that the utter prostration capable of being induced by it, is without any greater degree of danger than that condition, which the steamers produce by the abuse of lobelia, and which in their jargon is styled "the state of alarm." Still it is not easy to convince the friends and relatives of this, and if the Physician allows his patient to pass into such a "state," he will certainly find himself hurried after with the greatest dispatch, and with the startling announcement, that his patient is dying!—and though he may find him quiet and comfortable, it will be difficult to have his directions carried out in reference to a continuation of the medicine.

Thus it is, that I have endeavored to show the *modus operandi* of *Veratrum Viride*, and the proper method of its administration, in inflammatory diseases, designing, and hoping, to convince the timid doubter of its incomparable virtues and entire safety.

Did my space admit, I could here record scores of cases, demonstrating the wondrous powers of this agent; proving it a specific in Pneumonia, and showing it capable of robbing *puerperal fever* of its deadly terrors. But, I trust that I have written that which is sufficient to convince the Pathologist that it is, at least, a remedy not carelessly to be discarded.

In leaving this portion of the subject, I would remark, that the virtues of this agent are not alone manifested in sthenic inflammations, but that its administration is equally applicable in conditions where the very opposite obtains. I have often derived the utmost satisfaction from its use, in the very worst forms of Asthenic Pneumonia, and I have now in my mind, such a case, wherein the administration of five drops of *Veratrum* combined with five grains of Quinine, every three hours, wrought in the space of twelve hours, a change that seemed almost a miracle.

I come now, to direct special attention to the most important truth, which my experience and observation have developed in reference to the *Veratrum Viride*, and that, which is *the truth* I propose to offer on these pages. I have hitherto declared that it exerted a sedative influence upon the nervous system; I say now, that it is eminently a *nervine*, whose primary influence is spent both upon the cerebro-spinal and ganglionic systems, and that all the manifold indications, so successfully fulfilled by it, are alone dependent upon this fact. Now, all that has been published, either in the U. S. Dispensatory or elsewhere, concerning the remedial powers of this agent, was written in reference to its value in the treatment of febrile and inflammatory diseases. Indeed, in Dr. Norwood's pamphlet upon "the Therapeutical powers and properties of *Veratrum Viride*," its virtue as a controller of vascular and arterial excitement, constitutes the chief burden of his song, and, but an incidental mention is made of its other equally prominent and valuable powers. It is true, that Dr. Norwood has said that *Veratrum* was *nervine*, not *narcotic*, that he also remarked that Prof. Frost of Charleston, had employed it with benefit in *Cancer*\* and epilepsy, also, that its *emetic* effects *relieved* the symptoms of *acute chorea*, and that it was valuable in the convulsions of

\* The Italics are my own.



children accompanied with *febrile* action. Yet all these remarks were made so disconnectedly with each other, so incidentally, and in such connections, as clearly to show that, the Doctor had no adequate idea, of the *real* nervine properties of his remedy, or just conception of the full therapeutical powers of the priceless boon he was offering the Profession. Under the force of such facts and circumstances, I hope that I am justified in recording an experience, which tends to show that *Veratrum Viride* is as valuable a nervine, as an antiphlogistic, and that in the treatment of certain neuroses, it stands as prominent and as unrivalled, as it does in the management of inflammatory diseases.

On the 19th of February, 1857, I was called to a stout, healthy man, of sober habits, reported to be having "fits." I found him sitting on the side of the bed, seemingly well and perfectly intelligent, unaware, however, that he had had convulsions; all that I could ascertain of his previous history, was that he had been similarly affected in childhood. While conversing with him at his bed-side, he was suddenly, and without apparent premonition, seized with a frightful convulsion, occasioning frothing at the mouth, and the most violent jactitation of all the voluntary muscles. I immediately opened a vein and bled him profusely, but without the desired result, for, after the lapse of a certain period, with as perfect a return of consciousness as before, there occurred another convulsion of equal severity. In this emergency, the excessive muscular relaxation capable of being produced by *Veratrum Viride*, occurred to my mind, and I reflected that such an effect could only be produced by an influence primarily exerted upon the cerebro-spinal system of voluntary nerves. I instantly determined to act upon the reflection, and administered the *Veratrum* in full and frequently repeated doses, desiring and confidently expecting to produce the same train of distressing symptoms that so alarmed me some years previously. In this, I was disappointed, for, though the convulsions were arrested, there occurred no other symptom than a relaxed skin with profuse perspiration. In this case, I do not remember the number of drops given, but I do well recollect that the doses were large, and that the same quantity, in a less excited state of the nervous system, would, beyond all

question, have produced the effects exhibited in the case of the lady, already related. Since then, I have administered *Veratrum Viride* in numerous cases of eclampsia in children, with such satisfactory results, as have established beyond all doubt, the power of this agent to ARREST CONVULSIONS. Indeed, *I feel perfectly assured that it is a physical impossibility for convulsions to continue, after the system has been fully impressed by the remedy.* My experience is, that in these cases, *the medicine is tolerated in much larger doses than under ordinary circumstances.*

I have had but one opportunity to test its powers in puerperal convulsions, from the fact, that I have met with but one case occurring *after* delivery had been accomplished, and I have always withstood the temptation to administer it *before*, in consequence of a strong belief, if not certain conviction, that its action would arrest uterine contraction.

About two months ago, I was called with my friend, Dr. Terry, to see a woman suffering with puerperal convulsions. We found labor advancing, and though the convulsions were severe and frequent, we determined to leave its accomplishment to nature, and to endeavor in the meantime, to check or control the convulsions, by the inhalation of chloroform, there being certain symptoms which seemed to contraindicate venesection. Dr. Terry having been called away, I remained to watch the case and administer the chloroform; but as the labor made slow progress, and the convulsions increased in frequency and severity, I bled the woman copiously and sent for Dr. T. to return and bring instruments. He soon came and the woman was delivered, by means of the forceps, of a dead child weighing eleven and a half pounds. I remained with the case an hour, when, being called out of town, I left the lady quiet and comfortable. Upon my return, four or five hours later, I found her in a most violent convulsion, which was reported to be the seventh since delivery. I immediately gave her *fifteen drops of Veratrum Viride*, and directed that she should take ten more in two hours, after which, the intervals should be prolonged to three or four hours, according to circumstances. *There occurred no more convulsions, and the woman recovered perfectly, she was not even nauseated, though the medicine was given at regular intervals during the whole night.*

I will now record my experience with the *Veratrum Viride*, in a case of *Chorea*.

On the 7th of June, 1858, I was called to a young lady suffering from a violent attack of *Chorea*. The mother informed me that, it had been very gradually coming on, for a month or two; her symptoms, when first visited, were distressing to the last degree; her entire muscular system was in continuous and tumultuous commotion, so much so, that it was with difficulty that she could be kept upon the bed. This case passed on from bad to worse, notwithstanding the most assiduous attention and energetic treatment; tonics, antispasmodics and anodynes, were exhausted without avail. The spine and nucha were cupped and blistered without benefit, chloroform was administered both internally and by inhalation—in fact, every remedy that could be legitimately suggested was resorted to, but without success, and it seemed at last, that the girl must die from exhaustion and want of sleep. Opium, and its various preparations, appeared to make her worse; once or twice I suggested the employment of *Veratrum Viride*, but it was postponed, until on the 18th of the month, when my partner, Dr. Thornton, under whose especial care the case had been, was called off to Georgia. On that day, just as I was starting to visit her, my friend Dr. Terry, hearing of the unusual violence and obstinacy of the case, stopped me and proposed that I would give *Veratrum Viride* a trial, assuring me that he had thrice used it in *Chorea* with the most satisfactory results. So, I concluded, both from my own experience, and from his positive statement, to withdraw all other medication and give the *Veratrum Viride* a full and fair trial. The family had given up all expectation of her recovery. I told them, however, upon my arrival, that I had come with a new remedy, the last and only one that had not been tested, and that I felt convinced that the girl would recover under its use. I at once commenced its administration, and as she was gradually brought under its influence, the turmoil began to cease; the face which had been worked by its muscles into the most ludicrous and horrible distortion, became placid and intelligent, the head had ceased its everlasting jerking, the extremities lay still, the body left off writhing, and the patient quietly passed into a peaceful and profound slumber. This sleep was



deep and long, as it was the first, with few and slight exceptions, that she had had in nearly two weeks, and the quiet that the muscles now received, was all that had occurred, save during those few and short slumbers. At a subsequent visit, I found the family cheerful and hopeful, and the patient quiet and sleeping, the pulse but little depressed; there had occurred no vomiting. I roused her, and, to my great satisfaction, when awake, there was no jactitation of the extremities, and but very little twitching of the muscles of the face.

In this case, I thoroughly tested the influence and power of *Veratrum Viride*, for the first few days; if its administration was withheld, the commotion began gradually to return, but all would again become quiet, upon resuming its employment. At first, so continually did she sleep under the quiet that it induced, that the family called the *Veratrum* preparation "the laudanum mixture," notwithstanding they were aware that she had taken large quantities of morphine, without benefit, in our efforts to induce sleep. The *Veratrum* was continued for several days, the convulsive movements ceased altogether, the muscles became completely obedient to the will, and the lady returned to perfect health and blooming beauty, under a judicious and properly regulated tonic course of treatment.

In corroboration of my experience, I will here relate three very interesting cases, politely furnished me by my friend Dr. Terry, of Eufaula, Alabama, formerly of Georgetown, Georgia.

"Case 1.—I was called in Randolph Co., Ga., to visit a child aged twelve years. It had been confined to bed for three weeks, and was reported to have been under treatment for about six weeks, first, for worms, with calomel, spigelia, wormseed, &c., and subsequently for chorea, (with which I found it suffering,) with cemicifuga, iron, quinine, and the usual routine treatment, until the child was apparently dying.

It is not in the power of language to convey a proper conception of the truly pitiable state in which I found this child; no description can afford any adequate idea of its appearance and condition. It had slept none, neither had it taken any nourishment for days; it was evidently dying from exhaustion and inanition, the muscular commotion was violent, universal, and unaffected by sleep; the lips embossed with foam, worked

up, by a continual champing of the teeth. I instituted the following treatment: three drops of *Veratrum Viride* were administered every three hours; the vehicle for each dose being a teaspoonful of gum water, a small portion of which was introduced into the mouth every few minutes, until the whole was given, the medicine being in this way, rather *absorbed* from the mouth probably, than swallowed. In twenty-four hours, I had the gratification to see the symptoms greatly improved. The muscles were much quieter, and the child could swallow without difficulty, (the trouble in this respect, had constituted the greatest embarrassment in the treatment.) I continued the *Veratrum Viride* in connection with iron and quinine. At the end of the fourth day, all convulsive action had ceased; the V. V. was still farther continued, though in smaller doses, and at long intervals. Quinine, iron and generous diet completed the cure promptly.

Case 2.—Girl, aged fifteen years. This was an ordinary case. She was purged freely; after which four drops of V. V. were administered every three hours. Under its use, the convulsive phenomena soon disappeared, after which the V. V. was continued for a few days at long intervals. This case also promptly convalesced under the use of iron, quinine and generous diet.

Case 3.—Woman, aged thirty-six years; had borne no children; was subject to menorrhagia, immediately after an attack of which, she was taken with chorea, marked by continued nodding of the head, and violent convulsive action in one arm, together with slight jactitation of one leg. In this case I directed six drops of V. V. every three hours; the fourth dose occasioned slight nausea, and after the fifth dose, the convulsive action ceased, when the V. V. was withheld. There followed in the course of eight or ten hours, a return of the symptoms; the medicine was again resorted to with the former quieting result. The doses were then reduced, but continued for several days at long intervals. This case, like the others, recovered under the use of quinine, iron and generous diet."

Such is the experience, and such are the facts, that have taught me that *Veratrum Viride* is the most valuable, safe and certain agent in the treatment of those neuroses characterized by

convulsive phenomena, and I here would suggest it to the Profession as a remedy to be considered, if not relied upon, in the management of those direful maladies, tetanus and hydrophobia. I have never had an opportunity to test it in either, but were a case submitted to my care, such is my faith in the *Vera-trum Viride* in all convulsive affections, that I would place more reliance upon it than upon any other agent of the *Materia Medica*.

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ARTICLE XX.

*Remarks on the Treatment of Inflammation and Ulceration of the Womb ; and more particularly on Irrigations in Ulcerated and Inflamed Os Uteri.* By JOHN STAINBACK WILSON, M. D., of Muscogee County, (near Columbus,) Georgia.

IN the treatment of the above disorders, our means should be directed mainly to the removal of the local inflammation and congestion. To accomplish these ends, there is nothing more safe than the topical and general application of water. It is hardly necessary to say any thing to physicians as to the intimate connection between the skin and mucous membranes, or to remind them of the immense amount of blood that may be diverted from the internal organs, to the vast network of cutaneous capillaries. We have treated some very obstinate cases of chronic inflammation and ulceration of the uterus, which had resisted the persevering use of the ordinary remedies, after the following fashion, with the most satisfactory results. We began by sponging the whole body, daily, with tepid water, gradually reducing the temperature, as the patient was able to bear it, and following each application by active friction with the hand, or with a coarse towel, or a piece of grass cloth, which is excellent in such cases. This of course produced a strong determination to the skin, relieving the local vascular congestion of the womb; to say nothing of the equalizing, sedative and tonic effect on the nervous system, which is often so much disturbed and unbalanced in these affections. In addition to this general application, we have frequently prescribed a short



cold hip-bath, two or three times a day, to be followed by a good rubbing around the hips, back, loins, lower part of the abdomen, &c. This bath has but seldom been continued more than from one to three minutes each time, the object being to produce a revulsive reactive determination to the skin, over the affected part, rather than a profound, direct, sedative effect on the womb itself. Besides the sponging and hip-bath, we have been in the habit of prescribing a cold wet bandage over the womb, and not unfrequently over the lower part of the back. This, by its action on the capillaries, sometimes causes an eruption on the skin, almost as severe as that from tartar emetic, thus acting as a counter-irritant, and powerfully aiding the strong diversion already obtained by the baths, frictions, and the continuous action of the bandage which has been for some time preceding the eruption, in constant contact with the skin. This eruption is the "crisis" of the hydropaths, but its appearance can be readily explained without the absurd assumption that it originates from the elimination of drugs, poisons, the *materies morbi*, &c., which escaping in a tangible form, tear the body like so many devils. In using the bandage, we have generally continued it day and night, re-wetting it whenever it became dry or uncomfortably warm. For the removal of the headache and palpitation of the heart, which frequently attend this protean disease, we have found the following plan very efficacious: For the palpitation, we have prescribed cloths wet with cold water and applied over the region of the heart; and where there was much heat and excitement about the chest, the cloths have been exposed to the air without any covering, and changed frequently. We recollect a case in which the heart palpitated most violently, intermitted and cut up a great many strange capers, much to the annoyance of the poor patient, who sometimes thought that her hour had verily come. The wet cloth as above, and the hot foot-bath, which is a valuable adjuvant, never failed to give relief in this case, until the original cause of the palpitation,—inflammation and ulceration of the womb—having been removed, the cardiac difficulty gradually disappeared.

Headache is best relieved by the hot foot-bath, by strict attention to diet, to the bowels, and to the state of the mind. We

have commonly succeeded in regulating the bowels by simple enemata and a laxative diet. This is far preferable to the habitual use, even of mild purgatives. But the main object of this paper, is to call attention to a remedy in inflammation and ulceration of the womb, which, if we may decide from our limited observations, is inferior to none in safety and efficacy; and in some cases is superior to all others.

*Uterine Irrigation* is recommended by Colombat in cancer of the womb; (Meigs's Translation, page 344,) but we are not aware that the remedy had been used to any extent in this country, in cancer, or any other form of uterine disease. The apparatus for this womb-bath, is quite simple, and can be fitted up extemporaneously by any one. It may be prepared by having a common funnel, a stool, of the proper height, and long enough to stand astride the patient, with a hole through it for the funnel; and all that is necessary besides this, is a gum elastic rectal tube which may be fitted to the pipe of the funnel with a little bee's wax. We have used such an apparatus as this in a very severe case of ulceration, involving both lips of the os uteri, and which had resisted the repeated use of that excellent remedy, nitrate of silver. In this case, the mouth of the womb was not only ulcerated, it was swollen and livid; so much so, as to excite the most serious apprehensions of malignant disease; besides this, the patient was two or three months advanced in pregnancy, and her general health was very much impaired; indeed she had an almost endless list of disagreeable symptoms, such as palpitation of the heart, headache, dyspepsia, with all its horrors, mental hallucinations, gloomy forebodings, and in short, all the undescribed, and *never-to-be-described* symptoms embraced in the comprehensive and vague term, nervousness. Yet under the use of cold uterine irrigations, the inflammation subsided in a few weeks, the ulceration healed in due time, and her general health became better than it had ever been in any of her previous pregnancies, she having had four children before. And all this without a single dose of *medicine*, using the latter word according to its conventional and popular signification. Yet if *medicine* means any thing that cures, water must be a most excellent medicine indeed, to accomplish such results.

And in this connection we may be permitted to add, that

even we physicians are too much prone to fall into the popular error, that medicines are confined to the shelves of the apothecary, that they consist exclusively of the simples and compounds of the druggist and chemist. And thus are we liable to forget those great medicines manifested in nature's grand laboratory, and which, in many cases, are far more safe and efficient than the most subtle and refined productions of art.

In the case under consideration, the irrigations were used for awhile, as long as six hours in a day, with short intervals of rest. The rule should be to continue the application as long as possible, each time, so as to produce a decided sedative and constringing effect on the excited and congested vessels of the affected part; and as soon as reaction occurs, which will be manifested by increased pain, the irrigations should be repeated until the effect becomes *permanent*, until the vessels contract to their proper size, and the inflammation subsides.

Since her confinement, the subject of this case has had a return of the ulceration, and as the inflammation seems to be more indolent, the cold water has not succeeded so well as before, and as she is strongly prejudiced against the nitrate of silver, from her former experience, a very strong decoction of red oak bark has been applied, by pouring it into a glass speculum, and letting it remain in contact with the ulcer from three to ten minutes. The immediate effects of this, are pains in the back and considerable local irritation, but in a few days there is a marked improvement in all the symptoms. What will be the alternate result of this treatment, time must determine, as the case is still on hand.

In conclusion we would remark, that we know how strong popular prejudices run against the use of cold water in uterine affections, and we are not sure that the profession does not participate to a considerable in these feelings; yet we cannot possibly see any ground for fear in the use of uterine irrigations in inflammation of the os uteri, in the absence of any special contraindication, of which the physician is to judge. In cases where the local and general symptoms are decidedly asthenic, the remedy might be inappropriate; and the same thing might be true in cases where some pulmonary or other complication exists, or where there is extreme sensitiveness to cold. But in



cases where the excitement is great, where the inflammation is as an acute or sub-acute character, we cannot possibly imagine any remedy that would be more likely to produce the most happy effects, than the direct and continuous application of cold water to the inflamed part. And even where inflammation is more indolent, where the symptoms of excitement are slight, our observation has taught us that nitrate of silver and such like remedies, sometimes produce a morbid irritation, and aggravate the disease. The only disagreeable symptom that we have seen from cold uterine irrigations, was a muscular soreness, or a rheumatic affection of the muscles, and fascia of the abdomen. This readily yielded to the application of warm cloths over the painful parts.

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ARTICLE XXI.

*Ergot and the Tampon in Placenta Prævia.* By WILLIAM A. MATHEWS, M. D., of Fort Valley, Georgia.\*

I have had it in contemplation for a length of time, to report through the pages of the "Southern Medical and Surgical Journal," my views of the treatment of "*Placenta Prævia*," or "unavoidable Hæmorrhage;" illustrated by the details of one or more cases. My only motive in making this report, is to save the young and inexperienced members of the profession, from, at least, some of that intense anxiety, always attendant upon the management of those alarming cases. Hoping to make some suggestions that will render the treatment simple, and at the same time safer, to the unfortunate woman.

I do not presume to cast any additional light upon the *nature* or *causes* of the hæmorrhage in these cases; nor make any suggestion as to their prevention; neither do I claim for the mode of treatment much, if any thing, original. There are but few Physicians who have been long in practice, who have not met with one or more cases of "unavoidable Hæmorrhage," and who have not felt the want of that clear and satisfactory conviction, as to what course of treatment would best subserve the safety of his patient, and been subjected to that tantalising

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\* The above communication was sent on the 15th of May, 1859.

uncertainty, which sometimes results, in either too much temporising on the one hand, or temerity on the other. Trusting too long to astringents and the tampon, or resorting too early and unnecessarily to manual aid or delivery by *turning*.

It has been my misfortune to meet with a number of cases of "Placenta Prævia," and some of the most painful reminiscences connected with my past professional life, are associated with this always precarious condition. I have seen some in my earlier practice, die, who might, I honestly believe, have been saved by the practice which has been pursued by me in several other cases, within the past nine years. And if I can aid the young and inexperienced in safely conducting such cases, and thus contribute to saving the life of one dear devoted mother, one beloved, affectionate wife, I shall be abundantly compensated for making this communication.

Wishing to occupy as small a space as practicable in your valuable Journal, I will proceed to give the history from memory, of two cases which came under my observation and treatment, within the five past years.

During the winter of 1854, I visited Mrs. S. of an adjoining county, who I had learned some weeks before, had occasional attacks of "flooding," each attack more violent than the preceding. On arriving I found Dr. H., the family physician, present. The day being cold, I went into an adjoining room to warm, and while Dr. H. was relating the condition of his patient, a messenger came in and stated that Mrs. S. seemed to be in great distress, was very restless, and seemed worse. On going into her room we found her as represented, presenting all the symptoms of great exhaustion from loss of blood, which seemed to have come on within ten or fifteen minutes, as the Doctor had discovered no cause for great alarm when he left his patient's room, about the time of my arrival. A very large quantity of blood was found in the bed, and the discharge still profuse.

Upon examination, the os uteri was found *quite soft*, and *dilated* to the size of a dollar, and a small part of the placenta lying in it. She was complaining, and had been for some time, of rather irregular pains.

In a few words, I explained the peculiar and very precarious

condition of the lady, and feeling the absolute importance of checking the loss of blood, suggested the tampon, which was forthwith applied. We then commenced the administration of *ergot* in free doses, which in less than an hour, brought on active uterine contraction, and in two and a half hours, the fœtus was expelled, preceded by the placenta and tampon.

So great was the exhaustion, that syncope ensued soon after delivery, and continued to recur, rendering it necessary to use stimulants internally and externally, and to place the patient's head below the line of her feet, by elevating the foot of the bedstead.

Mrs. S. gradually recovered, and has borne one or two children since. She was delivered at about the end of the eighth month, as well as I recollect.

Case 2d. Sometime in the month of March last, I was requested to see Jane, a servant of Mr. M., near this village, who, I was informed, was suffering with a painful swelling of the veins of her legs. Jane was about six months and a half advanced in pregnancy, about twenty-five years of age, and the mother of three children. Finding her laboring under severe febrile excitement, I bled her moderately, advised some aperient, and rest in a recumbent posture, &c. Some four or five weeks after the above, I was called to see the woman in some haste, and found her laboring under "uterine hæmorrhage," not however, at all alarming in character. I learned, on enquiry, that Jane had been attacked without any premonition, while upon her feet. The history of the case was such as satisfied me, that it was one of "placenta prævia." I explained to her mistress her peculiar situation, that nothing could be done only to palliate, advised some astringent and *absolute* rest, with an anodyne at night if she did not sleep, or suffered increased uneasiness in her back, of which she was then complaining, and requested if the hæmorrhage *considerably* increased, to be notified immediately.

I visited my patient next day by request; was informed that the flooding was much less during the night, but had greatly increased since breakfast. I now for the first time, examined her per vagina, found a quantity of blood in the bed and a large coagulum nearly filling the vagina. The os uteri was considerably dilated, soft and flaccid, and at least two-thirds covered



by the placenta. She was suffering from pretty regular pains, and loosing blood constantly. Conceiving delivery absolutely necessary, I commenced with the ergot, giving it in free doses. In some forty or fifty minutes, the uterine contraction increased in force and frequency, expelling at almost every one, considerable quantities of blood. Watching my patient's pulse, I continued the ergot in increasing doses.

In about two hours and a half after commencing the ergot, I found on examination, the membranes entire and near the vulva, becoming during the uterine contraction very tense. Hoping to bring on more efficient contractions, I ruptured the membrane and gave exit to a large quantity of "the waters." The pains now entirely ceased, and my patient remained for about one hour free from all uneasiness.

After waiting some fifteen minutes for a return of pain, I examined again, found the os still more dilated, and nearly filled with the placenta, and blood flowing copiously.

Discovering some symptoms of exhaustion, and finding it necessary to save as far as practicable the loss of blood, I resorted to the tampon. Continuing the ergot in large doses, and using friction over the womb, I watched with great anxiety the strength of the woman. At the expiration of the hour, I had the gratification of seeing the uterus resume its action; the contractions became expulsive in character, and in twenty minutes more, the foetus was expelled, preceded by the placenta, and my patient was safe.

As in nearly all the cases I have seen, the foetus in both these instances was dead from exhaustion. I have thus in as condensed a manner as is compatible with perspicuity, given the details in the treatment of the above cases, upon which I will offer but few reflections.

When called to a woman laboring under "uterine hæmorrhage," about the seventh month of utero gestation, if the attack come on suddenly without any premonition, or if the woman be at any stage of pregnancy between the six and a half and eighth month, the physician may pretty safely diagnose "*Placenta Prævia*." If the loss of blood be not alarming in quantity, enjoin rest and prescribe some astringent, of which I know of nothing preferable to *alum*; and if the woman complains of occa-

sional pain, give an anodyne. If the loss of blood has been great, and the flooding continues, resort to an examination. Should the os be found undilated or not soft and dilatable, use the tampon. If the condition of the mouth of the womb be different, that is, soft and dilatable, or considerably dilated, the ergot may be resorted to with safety. Until, however, such is the condition of the os, the tampon is the only efficient remedy, and one that generally meets all the indications until the use of the ergot will be safe.

It will be seen that I rely almost entirely upon the tampon and ergot. The former is always important in excessive "uterine hæmorrhage," *except such as succeed immediately or within a few hours upon delivery*. Such is the relaxing influence of the loss of large quantities of blood upon the muscular system, it will very rarely happen, that the specific property of the ergot may not be called into requisition in ample time to save the patient.

I am aware that many of high authority object to the use of the tampon in such cases, supposing, that by causing the blood to coagulate about the bleeding vessel, the coagula thus formed, would still farther separate the placenta from the uteri, and thus increase the difficulty. With all due deference, I consider such objections altogether imaginary.

In the administration of ergot, two conditions are absolutely necessary; a proper condition of the soft parts, and such a presentation of the fœtus as will admit of its expulsion by the contractions of the uterus.

Of delivery by turning, I will only say, as a *dernier resort* remedy, it can always be had recourse to, when the ergot fails. But if the ergot is good, and freely administered, it may be relied upon with great confidence.

[Professor Henry Miller of Louisville, in a recent excellent Treatise on Obstetrics, strongly recommends the Tampon and the rupture of the membranes. His remarks thus far, strongly corroborate the views of our correspondent; "The supervention of Labor—the evacuation of the liquor amnii—these, in their order, are the great bulwarks of flooding women—no matter *where* the placenta is implanted. A *contracting* uterus cannot bleed when emptied of its waters,—at any rate, if it bleed, the hemorrhage is no longer dangerous."]—*Editors S. Med. and Sur. Jour.*

*The Glycogenic Function in Fœtal Life.* Two Communications by M. CLAUDE BERNARD and M. SERRES, to the Academy of Sciences, Paris, at its Sitting of January 10th, 1859. (Translated for the Nashville Monthly Record, by DANIEL F. WRIGHT, M. D.)

I.—*On a New Function of the Placenta*, by M. CLAUDE BERNARD. The object of my communication is to establish anatomically and physiologically that the placenta, with other uses which are undoubtedly varied and numerous, is destined during the earlier stages of foetal development to accomplish the glycogenic function of the liver, before the latter organ has acquired that development of structure which subsequently enables it to perform that function.

I have been for a long time led aside from the result towards which my researches aimed, through making my experiments upon the placenta of the ruminant animals, which are easily procurable at the shambles of Paris. During several years I fruitlessly made repeated observations upon calves and lambs taken at every stage of intra-uterine life, and was still unable to find any part of the placenta of these animals which contained the glycogenic matter. Spite of these early failures, I afterwards had recourse to the placenta of rabbits, guinea-pigs, etc.

I found that there is in the placenta of these animals a white substance formed by epithelial cells or agglomerate glandules. I moreover determined that these cells, like those of the liver in the adult animal, were filled with glycogenic substance. This mass of glycogenic cells appeared to me to be chiefly situated between the maternal and the foetal portion of the placenta, and subsequently to its development seemed to be atrophied in proportion as the foetus approached the period of its birth. I have since ascertained that the placenta of rabbits and guinea-pigs is formed of two portions having distinct functions: the one, vascular and persistent till birth; the other, glandular, preparing the glycogenic matter, and having a more limited duration.

Meanwhile the negative observations made upon so large a number of the ruminants arrested my attention: negative experiments which were to me just as indubitable as those from which I obtained the above positive results.

In repeating my researches, I succeeded in establishing a remarkable arrangement which no one before had distinctly pointed out: that while the vascular portion of the placenta represented by its various cotyledons accompanied the allantois and was distributed on its external surface, the glandular portion was distinct from it and was developed on the internal surface of the amnion. Whence it results, that if in the rodentia, and the other animals with a simple placenta, we find the vascular



and glandular portions of the placenta mixed together, in the ruminantia, on the other hand, we find the vascular and glandular portions of this organ developed separately on distinct membranes, and capable, in consequence, of being examined separately in their respective evolution. Thanks to this anatomical arrangement, we are able to prove clearly that the vascular portion of the placenta persists and grows until birth, while we see that the glycogenic portion attached to the amnion increases during the earlier periods of gestation, and attains its greatest development towards the third or fourth\* month of intra-uterine life, then disappears by degrees, passing through the various forms of atrophy and degeneration; so that at the birth of the mammifera there no longer exist any traces of that temporary hepatic portion of the placenta. But we ought moreover to add, to arrive at the true character of these organs, that during the whole period while the hepatic placenta of the amnion is growing and performing its function, we observe that the fœtal liver does not yet possess its appropriate structure or functions, and that it is precisely at the moment when the liver is developed, and its cells, having acquired their characteristic form, commence secreting glycogenic matter, that the hepatic organization of the amnios has a tendency to disappear.

The hepatic patches of the amnios appear in ruminants from the earliest periods of embryonic life. They are developed by degrees on the internal face of the amnios, covering over the umbilical cord to a point where a well-defined line separates the fœtal integuments from the amnion. Afterwards these patches, which, particularly along that portion of the membrane which invests the cord, assume the appearance of villousities, extend themselves along the other portions of the amnios, in proportion as the blood-vessels which accompany them are developed. They gradually increase in volume; formed at first of a transparent matter, they become at a later period opaque, especially towards their edges, which are elevated a little, and sometimes cause them to resemble in their appearance patches of lichen. At other times they have quite varied appearances, flattened or filiform, and are sometimes blended one with another so as to become confluent. At their complete development, the patches attain a thickness which sometimes amounts to three or four millimetres; those which are filiform often present a considerable length, and are sometimes enlarged at their extremity in the form of a club. At a later period these hepatic patches of the amnion cease to be developed; at certain points they

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\* I am only able to give here these limits approximately, by reason of the impossibility of ascertaining the age of those calves which are procured at the shambles.

become yellowish, of a fatty appearance; in other places they fall off and float in the amniotic fluid, and leave on the membrane a kind of cicatrices which afterwards completely disappear.

We can determine with great ease the presence of glycogenic matter in the hepatic patches of the amnion at all periods of their development. From the time when they first appear, it is easy to recognize this matter under the microscope with the aid of iodine. Until the patches are completely developed we can obtain from them their glycogenic matter in large quantities and study its characters. To obtain it easily, the process will consist of digesting the amniotic membrane in boiling water, which will enable the patches to be easily detached for the purpose of rubbing them in a mortar, and extracting the matter from them by boiling, exactly as we proceed for the extraction of glycogenic matter from the liver.

As regards its characters, we may say that the glycogenic matter of the amniotic patches exhibits the most perfect identity with the glycogenic matter of the liver. It is dissolved in the water, giving it a milky appearance; it may be precipitated by alcohol and crystalized by acetic acid. Iodine communicates to it an intense vinous red color, which disappears when heated and reappears on cooling. This coloring of the glycogenic matter of the amniotic patches by iodine takes place not only when the matter has been extracted from the cells by boiling, but it may be observed also in the cells of the organ themselves, as we shall see presently. Like the glycogenic matter of the liver, that of the amniotic patches also changes into dextrine or fermentible sugar (*glucose*) with great ease under the influence of diastatic ferments, both animal and vegetable, and by the action of boiling with strong acids.

While we study the structure and the histological development of the hepatic patches of the fœtus, we can follow out very distinctly the formation of the glycogenic cellules, as well as the development of their contents.

The amniotic membrane in the calf seems to be at first destitute of any well-marked epithelium, and we find its tissue chiefly constituted of fibres of elastic tissue with nuclei contained in a network of cells of a fusiform aspect. At the very moment of the appearance of the patches we discern under the microscope on the internal face of the amnios, and continuously along that part of the membrane which invests the umbilical cord, a kind of spots formed of epithelial cells; then in the centre of each spot we observe groups of glandular cells in very small number at first, and soon we are able to observe the patch at its very origin and composed of only one or two glandular cells. We very easily distinguish the glandular or glycogenic from the

epithelial cells which accompany them, both by their appearance and by their reaction with iodine. In fact, when we add to an amniotic papilla or patch on the stage of the microscope a little tincture of iodine acidulated with acetic acid, we soon see the glycogenic cells assume a vinous red tint, while the epithelial cells continue colorless or become faintly yellow. By degrees during development the groups of glycogenic cells increase and assume the form of papillæ, especially on that part of the membrane which invests the cord. Examined under the microscope, these papillæ are formed of glycogenic cells covered with an epithelium; as soon as we add the acidulated tincture of iodine, we see the glycogenic cells of the papillæ colored of a vinous red, especially at their base, which is very definitely separated from the surrounding tissue. The hepatic patches are composed of the same elements as the papillæ; it is always difficult to ascertain whether as regards their agglomeration they ought to be considered as consolidated papillæ, or as having another mode of growth. All we are able to say is, that we can see them spread in the direction of their circumference, which exhibits well-developed glycogenic cells, while in the centre these cells sometimes appear to be at a less advanced stage of development.

When we bruise the patches or the papillæ and mechanically separate their histological elements, we obtain isolated cells provided with a nucleus and sometimes a nucleolus, and containing a granular substance: the granular substance is colored wine-red by the acidulated tincture of iodine; the nucleus, the volume of which seems to me to vary under the influence of reagents, never assumes the same color by the action of iodine. The cells of the hepatic patches of the amnion offer a great resemblance in form and reaction to the cells of the liver in a state of function. In fact, we can isolate both the cells of the amniotic patches and those of the liver by allowing a small portion of the tissue of these organs to macerate for some time in a concentrated alcoholic solution of caustic potash; we then see that the contents of the two orders of cells continue insoluble in this reagent, and fall to the bottom of the liquor in the form of a white deposit which offers under the microscope both the original form of the preserved cells and an amorphous granular matter. When, again, under the microscope, we saturate the excess of potash with crystallizable acetic acid, and afterwards add tincture of iodine, we see the wine-red color appear, and that with greater intensity than when we operate on the fresh cells.

When the hepatic patches of the amnios begin to grow yellow, to fall off, to be absorbed, or to degenerate into fatty matter, we perceive changes in their microscopic structure; the glandular cells in general lose their nucleus at the same time with their



glycogenic matter, so that upon treating a fragment of these altered patches with the acidulated tincture of iodine, we see a mixture of cells, some of which assume the wine-red color, while others remain uncolored. It is evident, moreover, that the cells which remain uncolored are destitute of nuclei and of granular contents. We sometimes perceive a transition between these two extremes, that is to say, we see cells in which the nucleus and the granular matter have nearly disappeared, and in which the wine-red color is scarcely perceptible.

A little later, when the patches of the amnios form mere cicatrices, we find only the flat cells, destitute of nuclei, and in which it is impossible to detect the slightest trace of glycogenic matter. These cells at a later period finish by disappearing themselves. When the patches, instead of falling off and disappearing, degenerate into fatty matter, we observe under the microscope the presence of a fatty matter at the same time that we see mixed with it very fine octahedral crystals, which exhibit all the characteristics of oxalate of lime, so far as to be insoluble in water or in acetic acid. It is needless to add that there is, besides, a complete absence of glycogenic matter in these degenerated hepatic patches.

If now we institute an examination of the structural development of the liver, parallel with that which has just been made of the evolution of the glycogenic patches of the amnios, we shall be struck with the constant inverse relation which we observe between the development of the cells of the liver and of those in the amniotic patches.

At the early periods of embryonic life,\* when the amniotic patches are well filled with glycogenic matter, it appears that the liver of the fœtus, still very soft, is made up of rudimentary cells rounded or fusiform, soluble in the alcoholic solution of potash, deriving no color from iodine, and showing none of the characteristics of glycogenic cells. At this period the tissue of the liver does not give the least trace of glycogenic matter.

At the end of their period of growth, when the glycogenic cells of the amniotic patches begin to disappear or degenerate, we find in the liver of the fœtus cells which have acquired their definitive forms as liver-cells including one or more nuclei with granular contents, not dissolving in an alcoholic solution of potash and deriving the wine-red color from the contact of iodine, after we have saturated the alkali with acetic acid. It is at this period that we begin to be able to separate from the liver of the fœtus, which has become more firm, glycogenic matter exactly similar to that which the adult liver produces.

\* At the commencement of embryonic life in the embryo calf while from two to three centimetres long, I have not as yet perceived the amniotic patches. Perhaps hereafter glycogenic cells will be discovered in the umbilical vesicle.

Later still, when the patches have entirely disappeared or degenerated into fatty matter, and the foetus is near the period of its birth, we find that the tissue of the liver, now grown as solid as in the adult animal, is now made up of elements which have assumed their definitive form: all the cells of the liver are then filled with glycogenic matter, and at that period we can separate from the liver of the foetus glycogenic matter, as abundantly as in the best nourished adult animal.

To resume: From all the facts which are contained in this paper, I think we can make the following inferences:

1. There exists in the placenta of the *mammifera*\* a function which till now had remained unknown, and which appears to take the place of the glycogenic function of the liver during the earlier periods of embryonic life. This function is located in a glandular or epithelial structure of the placenta, which in certain animals is mixed with the vascular portion of that organ, but which in ruminants appears separate, so as to form on the amnion patches of an epithelial appearance, which every one has doubtless seen, but the significance of which has been hitherto unknown.

2. This temporary hepatic organization of the placenta, by permitting us to study directly in an insulated anatomical element the production of glycogenic matter, confirms and completes by a new example that which I have long ago maintained, that the formation of the glycogenic amylaceous matter is a common faculty of the animal and vegetable kingdom. The observations contained in this paper furnish us with further novel analogies, as we see glycogenic amylaceous matter form around the embryo animal, just as in plants it accumulates in their seeds around the embryo vegetable.

3. The glycogenic function in animals commences, then, from the origin of foetal life, and before the organ in which that function is located in adult life is developed. But then it is located in a temporary organ belonging to the foetal appendages.

4. All which has been said in this paper relates exclusively to the *glycogenic* function of the liver; but it will be really a question, to examine whether the *biliary* function which the liver possesses in the adult is equally accomplished by the placental hepatic organ which we have described. The question should be put in these terms, viz.: Whether the same glandular cells are charged with two functions which thence must be consolidated and united; or whether, on the contrary, the liver

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\* In birds, (the chicken,) I have ascertained that before the development of the glycogenic cells of the liver there exist glycogenic cells which are developed in the walls of the vitelline sac; but not having as yet completely followed out their evolutions, I will treat this subject in another communication, confining myself at present to speaking of the *mammifera*.

ought not to be considered rather as a complex organ in which are found mixtures of anatomical elements distinct from one another, and destined, the one for the formation of the amylaceous matter, the other for the biliary secretion? This question, which as yet has not been solved, in spite of the numerous histological labors of which the liver has been the object, appears to me capable of being illustrated and even decided by physiological researches, made, on the one hand, on the embryonic developments of the function, and, on the the other, upon the inferior animals. I have entered upon some researches on this subject, of which I will give an account to the Academy as soon as they shall be terminated.

II.—*On Glycogenic Bodies in the Umbilical Membrane of Birds.* by M. SERRES. The important communication of M. Bernard on the glycogenic function of the placenta has dissipated some doubts which, in studying the embryogeny of birds, had arisen in my mind concerning the use of certain small glandular bodies which have been observed on the surface of the umbilical membrane of the chicken in the process of formation.

We know that in the course of the second or third day of incubation there is developed on the opaque portion of the *area germinativa* in the hen's egg, a membrane composed of capillary vessels so numerous that its whole surface is entirely covered with them.

These vessels originate about the twentieth hour of incubation with the appearance of minute cells, which become the *puncta sanguinea* of Wolff. Without communication with one another at first, these cells become covered about the twenty-fourth hour with capillary vessels extremely delicate; they soon form *vascular islets*, isolated at first, but forming unions with each other from the thirtieth to the fortieth hour, so as to form the most beautiful capillary plexus which can be witnessed in the animal organism. These are facts already known.

But (which is hitherto unobserved) there are little glandular bodies interposed between the *vascular islets*, and scattered over the whole surface of the umbilical membrane. They may be seen under the microscope from the twenty-fourth to the thirtieth hour of incubation; their pale color renders them easy to distinguish from the vascular islets, which are of a reddish hue; at the thirty-fifth hour they become of a bright yellow color, and the volume which they have acquired permits us to distinguish them more easily.

It is at this period, so important in the development of the embryo chick, that I have caused them to be represented in the *Archives of the Museum*. In the embryo which was used in designing that figure, their number reached to five hundred.



They were disseminated not only over the *area opaca* of the umbilical membrane, but also over nearly the whole space of the *area pellucida*, in which they were more distinct from the fact that at that period the *area vasculosa* of the germinal membrane, still clouded, is not yet traversed by the capillary vessels which afterwards form in it. From the thirtieth to the sixtieth hour their volume continues to increase, but the fulness of the arteries and veins partly conceal them.

As I have already said, the nature of these little bodies as well as their use was entirely unknown to me; but on hearing the clear and precise demonstration which M. Bernard has given of the glycogenic cells or glands of the placenta, I have no longer any doubts but that these bodies were their analogues in the class of birds—a class in which the placenta is represented by the umbilical membrane in part and partly by the allantois.

If the analogy of these bodies be established, shall we not be justified in saying that there exists in birds a diffused hepatic organ or a transitory liver analogous to that of which M. Bernard has demonstrated the existence in the placenta of the ruminantia?

In submitting these observations to our colleague, I will take occasion to remark that those which he has presented on the retarded action of the ordinary liver in ruminants are perfectly established in birds. Although in that class the liver appears as a double diverticulum of the intestinal canal at the end of the third day, nevertheless the corresponding vascular system of the portal vein is not developed till much later. From the slow formation of the structure of that organ, it is not till towards the eleventh or twelfth day of the formation of the chick that it is in a condition to enter upon its functions. Now it is just at this epoch that the umbilical membrane and its system of blood-vessels is replaced by the allantois, on the surface of which we do not see the glycogenic glands.

In relation to general embryogeny, one of the consequences of the discovery of M. Bernard is to establish, as he has done, that in the course of embryonic life there exist two glycogenic organs: the one transitory, residing in the placenta; the other, permanent, which is the hepatic organ. He proves in this manner the continuity of the glycogenic process in the blood through the entire duration of intra-uterine life.

Applied to the normal development of the embryo, this view is very just; but in the abnormal condition, when a degraded embryo without an hepatic organ and with a placenta sometimes so rudimentary that it scarcely equals the hundredth part of an ordinary placenta, how does the glycogenic function *then* become established? We know that in these abnormal beings,

which through their frequency constitute the greater portion of monstrosities by defect—we know, we say, that they are all destitute of liver, of heart, and of head, and that their placenta is extremely reduced in its dimensions. In this condition their existence would be incomprehensible if Nature did not supply that placental imperfection. She supplies it, then, by transforming the tegumentary covering of the acephalous monster into vast pouches filled with a sero albuminous liquid, and the walls of which are covered with a network of capillary, venous, and arterial vessels—vessels communicating by special trunks with the general vascular system of the body. Beyond this arrangement, so favorable for supplying the imperfection of placental respiration, the interior of these pouches is lined by a membrane of a serous nature, beneath which are found certain round yellow bodies, sometimes forming little patches by their union : are not these bodies glycogenic glands? In an acephalous monster, plates of which I have caused to be made in the work which appeared serially in Vol. XXV., of the Memoirs of the Academy, the subscapular pouches each contain more than eighty of these bodies, the posterior scapular pouches contain each from thirty to forty, and the axillary sinuses have from fifteen to twenty ; the dorsal and inguinal pouches likewise possess them, but in smaller numbers.

It is needless to add that before the communication which we have just heard, I was entirely ignorant of the nature and use of these bodies. Such are the observations which I desire to submit to the attention of our colleague, M. Bernard.

[*Note by the Translator.*—The communications of MM. Bernard and Serres reminded us of the ancient nomenclature, in which the placenta was called the Liver of the womb, *Jecur Uterinum*. Thinking that we might find something pertinent to the present subject, we turn to our old books, and were interested at discovering that the term was used not merely with reference to a fancied resemblance in form, texture, etc., between the placenta and the liver, but with the belief that the placenta actually performed functions during foetal life which were afterwards assumed by the liver.

We have before us a copy of the "Anatomy of Human Bodies, etc., by Isbrand de Diemerbröck, Professor of Physic and Anatomy in Utrecht. Translated from the last und most correct and full edition of the same, by William Salmon, Professor of Physic. London, 1689." The original work of Diemerbröck was published in Latin about the middle of the seventeenth century.

In commencing the history of intra-uterine life, he gives the first place to the placenta, speaking of it under that name which

he says was first assigned to it by Fallopius, but adding, "Others, from its resemblance in use, color, and substance, call it the *Uterine Liver*." After giving a very satisfactory account of its form, texture, growth, and connection with the umbilical vessels, he enters upon the uses of the organ, which portion of his subject he opens by the following quotation from the illustrious Harvey: "*The placenta concocts the nutritive juice coming from the mother for the nourishment of the birth.*" Wherein this concoction consists, according to the theories of humoralism and vital spirits prevalent in those days, it would not profit us to inquire; but the description he gives of it is precisely the same as he assigns to the liver in extra-uterine life, so that "the uterine liver performs that function alone, which in men born the liver and spleen perform together. . . . Those bowels, therefore," [the liver and spleen,] "not being able" [to perform these functions,] "by reason of their tender constitution, provided nature has substituted in their place, for the time, a uterine liver, which supplies the office of both from the time that the blood begins to flow from the birth through the umbilical arteries into the uterine liver till the delivery;" adding, afterwards, that another reason for this "*concoction*" taking place in a different organ is, that "the *fermentaceous liquor* that is to be mixed with it [the blood] ought to be less acrimonious, and, by the same consequence, ought not to be prepared and concocted in the liver and spleen as in man born, but only in the uterine placenta, to the end it may be more mild and temperate when it enters the birth."

The function, then in the performance of which the *placenta* or *uterine liver* anticipates during foetal life the functions of the liver is the *concoction* of a *fermentaceous liquor*, which for some reason or other, Diemerbröck does not know why, (nor, for that matter, does Bernard or Serres,) must be constantly mixed with the blood in order to keep up its nutritious properties.

Of course the *discovery* of M. Bernard is not the less original or valuable for having been anticipated some two hundred years by an *opinion* of Diemerbröck. Discoveries in the present day are grounded upon industrious research, multiplied experiments and observations, and rigid induction—whereas the opinion we have exhumed is based upon nothing but the vaguest conjectures suggested by slight physical resemblances between the liver and the placenta. But if these old anatomists only conjectured where the moderns demonstrated, it must be admitted that their guesses were sometimes wonderfully happy; and for such a brilliantly successful guess as this, the name of Diemerbröck, now a fact fading from the memories of medical philosophers, shall be heard once more before it sinks in the limbo of things forgotten; his *fermentaceous liquor* shall be heralded side



by side with the *glycogenic matter* of modern physiology, and the placenta shall again be known as the "LIVER OF THE WOMB."]

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*Dropsy and Albuminous Urine: A Clinical Lecture, delivered, at the Baltimore Infirmary, June, 1859. By Professor CHARLES FRICK, M. D., &c.*

DURING the past few weeks, gentlemen, there have been several cases of disease admitted to the wards, having certain features in common, but which nevertheless depend on different pathological conditions: these are dropsy and albuminous urine. And as the material is sufficiently abundant, I propose to speak to you of the relation they bear to each other, and of the various alterations with which they are associated.

In the first place, I must tell you that dropsy is an effusion of serum from the bloodvessels, into the cellular tissue, or one of the serous cavities, or both; and that it is produced by two causes. The one, a mechanical impediment somewhere in the course of the vessel, whereby the blood is prevented from returning to the heart, which thus becomes engorged to such a degree, that the serum soaks out, to relieve the distension; and the other, an alteration in the composition of the blood, which has become more watery, and readily escapes into the surrounding textures, more particularly as the coats of the vessel have undergone some alteration, in consequence of their being improperly nourished. Now, these two causes combined—that is, mechanical obstruction and thinning of the blood—when they exist together, are almost certain to occasion dropsy, although either may do it separately. And, as we shall see presently, when any pathological condition exists in which these two are present to a decided degree, then are we most apt to have a large amount of dropsy. But you are also aware that fluid is poured out as the result of acute inflammation. You have remarked occasionally, that common plegmonous inflammation gives rise to pitting from cedema of the surrounding cellular tissue; and you have had ample opportunity to observe the frequency with which a liquid effusion attends an attack of pleurisy. Now, in these cases, neither of the conditions I have just alluded to, are necessarily present; the blood is not altered, nor is there any mechanical impediment to its return. But one circumstance, however, is particularly remarkable. The fluid does not consist of serum alone, as in the first instance, but of liquor sanguinis; that is, serum, with fibrin in addition; the latter undergoing coagulation, and producing the fibrinous

bands and adhesions, so commonly a result of acute inflammation, and which no doubt serve, in many instances, to repair in a measure the injury inflicted by the disease. I say that the effusion in one instance is serum, and the other, liquor sanguinis. This is not invariably true, but is so commonly correct, that practically we may assume it always occurs.

The effusion, then, in these two cases, is entirely different; and without attempting to enter too deeply into the explanation of this difference, I will merely say, that if the accident in the first case is attributable to mechanical causes principally, independent of the bloodvessels; in the latter, the bloodvessels alone are concerned. In ordinary dropsy, the serum escapes, because the blood is thin, and is prevented from returning to the heart; while in an inflammatory effusion, liquor sanguinis is poured out, because the capillary vessels of the part are the seat of a morbid accumulation, from some cause inherent in the part itself. And I beg you to bear these two distinctions clearly in view, for otherwise you will scarcely have a just appreciation of the two different pathological conditions—that is, dropsy on the one hand, and inflammatory effusion on the other. It is true, you cannot always say which of the two is present in a case under consideration, yet, nevertheless the principle is correct, and generally the one can be recognized from the other with tolerable certainty.

But to return to dropsy. If you will bear in mind that a serous effusion, whether in a serous cavity, or in the cellular tissue, is due to mechanical obstruction and impoverished blood, you will realize that when the dropsy is local, the cause must be local; and if general, the cause must be general. Thus, aneurism of the popliteal artery produces œdema of the leg below the knee; femoral aneurism of the whole leg; and an enlarged uterus, by the pressure it occasions upon the iliac veins, will oftentimes be attended by dropsy of both lower extremities. These are instances of simple mechanical pressure. Again, if the obstruction be seated somewhere in the heart, so that the lower cava is interfered with, the whole of the lower part of the body is involved; while a thoracic aneurism, pressing on the vena innominata, has more than once given rise to dropsical swelling of the upper portion of the body alone; and you can understand also, that if the portal vein, which you know carries the blood of the intestinal canal through the liver, be obstructed in its course, the resulting effusion must make its appearance in the peritoneal cavity. These, too, are examples principally of mechanical pressure. As an illustration of dropsy occurring in persons whose blood is more watery than in health, you will observe that women whose constitution is weak, and whose tissues and muscles are flabby, are prone to have their legs

swollen after standing or walking, and that this puffy condition is always aggravated towards the close of the day. But, as I said just now, dropsy, to any extent, most often depends upon the two conditions combined.

Now, the explanation of the dropsy resulting from kidney disease is not so obvious as others. You are aware that a large portion of the kidney is made up of small tubes, communicating with bloodvessels, and these in turn with the malpighian bodies, which are so largely distributed through the cortical portion of these organs. And you can readily understand, that if structural alteration has taken place in these tubes, so that the circulation through the gland is obstructed, they must become more or less congested, and serum will be poured out, which, mixing with the urine, passes off by the bladder, and its albumen may then be coagulated by heat and nitric acid. And the same result will take place from congestion occurring from other causes. This serous drain, then, in a very short time, has a decided effect in deteriorating the blood, rendering it thinner and more watery; and as the obstruction to the blood in the kidneys, from the proximity of the renal arteries to the aorta, would be very soon felt in the circulation generally, we would have presented the two conditions most likely to occasion dropsy, namely, deteriorated blood, and interference with its transit through the vessels. But there is this peculiarity about renal dropsy. It usually makes its first appearance in the looser portions of the cellular tissue, as the eyelids, the scrotum, &c., or in those places where it meets the least resistance, and which are most distensible. And now you will understand why it is that general dropsy must be due to some general cause, interfering with the circulation; why cardiac dropsy should be first evidenced in the lower extremities; that from diseased liver in the peritoneal cavity, and renal dropsy in the looser portions of the areolar tissues. So much, then, for dropsy.

I have just said, that when the circulation through the kidneys is interfered with, serum escapes with the urine, and its albumen may be detected by heat and nitric acid. And if, in addition to this obstruction, the blood is deteriorated, either from the drain of albumen constantly going on, or from causes seated elsewhere than the kidneys, the escape of serum is more decided, and its albumen more abundant. You will readily appreciate, then, that albuminous urine does not always denote disease of the kidneys. It is often occasioned by heart disease, and may be produced by pressure on the renal veins; and I need scarcely remind you, that if the urine contains pus, the albuminous liquor in which the globules float, is coagulable by heat. When, therefore, albuminous urine is present, you cannot necessarily diagnose renal disease; for this is to be made



out by other phenomena, and by the assistance of the microscope, of which I shall have more to say to you another time.

Now let me endeavor to show you, in a few words, the application of the principles I have thus far laid down to several cases of disease which we have had under care within the past few weeks.

CASE I.—The first is the man who entered the Infirmary April 28, and left on May 20, named Lynch. I found him much emaciated, and very pallid. His legs and scrotum very œdematous, and there was a considerable amount of fluid in his abdominal cavity. He had very decided dyspnœa, and coarse râles could be detected over both lungs posteriorly. His pulse was weak, intermittent, and irregular, and beat one hundred and eighteen times in the minute. His urine very high colored, of a sp. gravity of 1.023, and amounted to thirteen ounces in the twenty-four hours. Both heat and nitric acid threw down a copious precipitate, but under the microscope nothing was perceptible but a few amorphous crystals of uric acid. On examining his heart, I detected a loud, rough murmur, taking the place of the first sound, and most evident towards the apex of the heart. He told us that he had had rheumatism some years since; that for some time he had labored under difficulty of breathing, particularly in mounting ascents; and that the dropsy, which first made its appearance in the lower extremities, had commenced about four months previously. Now what was the alteration in this case? Manifestly an insufficiency of the mitral valve, allowing regurgitation. And I recognised it in this way. The heart, in contracting, forces the blood through the aortic and pulmonary orifices, and at the same time, the auriculo-ventricular valves should close, so as to prevent the blood passing from the ventricles into the auricles. And synchronous with this, the first sound occurs. A murmur dependent on valvular alteration occurring with the first sound, must therefore be due either to stricture of the aorta or pulmonary artery, on the one hand; or to an insufficiency in the mitral or tricuspid valves on the other. As it was more evident towards the apex of the heart, I concluded it was the latter; and there was no regurgitation in the veins of the neck; and as disease of the left side is more common than the right, I assumed it to be in the mitral valve. Now, in what way are the dyspnœa, the dropsy, and the albuminous urine dependent on this condition? In the first place, if the blood regurgitated into the left auricle, this would be first distended, then the pulmonary veins, then the pulmonary artery, and in turn, the right ventricle, the right auricle, and the cavas. The distention in the pulmonary vessels would give rise to the dyspnœa, and in time the obstruction of the cavas, particularly the lower, from its having gravity

to overcome, would become more distended, and allow the escape of serum into the cellular tissue of the legs first, and subsequently into the abdominal cavity. The same cause would produce congestion of the kidneys through the renal veins, and the serum thus poured out would pass off by the kidneys. That the albuminous urine did not depend on structural alteration of the kidneys, I was satisfied; partly because there was no evidence of such a condition revealed by the microscope, and partly because the whole phenomena could be explained by the cardiac affection. The indications for treatment were very plain; to lessen the amount of fluid in the circulation generally, either by the skin, the kidneys, or the bowels, and to support the strength. Accordingly, he was ordered squill, assafoetida, and the oil of juniper. Under this treatment, his urine was increased to twenty-three ounces, but with no marked benefit. He was then ordered sal rochelle, which occasioned two or three loose serous discharges daily, under which his dyspnœa subsided, and his dropsy sensibly diminished. He left us, however, in the course of a few weeks, his condition more comfortable, but not materially improved.

CASE II.—The second case is at present, under treatment, and is of more interest. Lewis Snyder, aged 45, in St. Vincent's Ward, entered the house June 7th. He is a pallid man, and says he was not sick until six weeks before his entrance. Has never had rheumatism, but admits for some time past he has had difficulty in mounting ascents. He had no dropsy, his dyspnœa was extreme, and his pulse small, contracted, irregular, and one hundred and twenty-eight. His urine had been very copious, but latterly has undergone a marked diminution, and was at entrance seventeen ounces, high colored, specific gravity 1.022, and highly albuminous. Dullness over his heart much increased, and the pulsations very vigorous, although irregular. The apex is felt in its normal position, but there is also distinct pulsation at the ensiform cartilage. Above the sternum there is no unusual pulsation, nor can any blowing sound be heard any where in the cardiac region. There was nothing unusual in his lungs, except râles throughout, mixed also with dry sounds. A microscopic examination of the urine revealed nothing of importance.

Now what is the diagnosis in this case? The most marked symptom was the difficulty of breathing, produced evidently by swelling in the membrane of the bronchial tubes, and the secretion poured out in them as a consequence. This was scarcely catarrh; it did not commence as such attacks do, and moreover, was associated with a very irregular action of the heart, and a kind of dyspnœa, which I have more than once pointed out as belonging rather to the heart than the lungs. That the right

ventricle is hypertrophied in this case, is proved by the increased dullness and pulsation at the ensiform cartilage, while at the same time its apex is found in the normal position. For although the heart may be displaced to the right side by various causes, so that the apex may be felt at the ensiform cartilage, yet in such cases, there will be no pulsation in the normal position. The right ventricle, then, is enlarged, but will this explain the difficulty? I think not. Regurgitation of the tricuspid or mitral valves, would give rise to a decided blowing sound, which there is not; while contractions of the tricuspid would be more likely to occasion dropsy, and pulsation of the jugular veins. But assuming that there is contraction of the mitral valve, the solution is easy. In the first place, the blood passes from the auricle to the ventricle, partly by the contraction of the first, and partly by the dilatation of the latter. Nor is it impelled with sufficient force to give rise to a murmur, while the healthy semilunar valves, flapping back into their place, are quite sufficient to occasion a clear second sound. If, then, the valve be contracted, the usual amount of blood is not received in the left ventricle, nor sent by the aorta to the various arteries. The pulse, therefore, was small and contracted. In the second place, the auricle must have been unnaturally distended, and thus an excess of blood was accumulated in the pulmonary vessels and the lungs. This explains the dropsy. This accumulation would be felt more or less throughout all the organs, the kidneys among the rest, and the albumen found in the urine was but a result of these organs relieving themselves of the superabundant serum thus forced upon them. So much, then, for the diagnosis.

The indication for treatment was manifestly to relieve the engorged vessels by some drain, which would at least afford temporary relief, and at the same time to support the general strength. Accordingly, he was ordered

Assafoetidæ, gr. j.

Scillæ pulv., gr. iij.

Ol. Juniperis, gtt.  $\frac{1}{2}$ , every 4 hours.

I did not prescribe digitalis, veratrum viride, or any similar agent, although the pulsations were both too frequent and too forcible, because I considered these were but evidences of the degree to which the heart was obliged to labor to overcome the impediment; and a sedative of this character might lower the frequency and moderate the impulse, but it would unquestionably render the heart more irregular, and increase the dyspnœa. In two days after the commencement of the treatment, our patient was able to lie down, and his cough had much diminished. In a week all difficulty of breathing had disappeared, the pulse



became fuller, more infrequent, and perfectly regular. The abnormal impulse of the heart had altogether subsided, and his strength had decidedly improved. I would recall to your recollection the fact, that in twenty-four hours the quantity of urine had increased to thirty-five ounces; the next day to fifty-six, and has continued between fifty and sixty ounces up to this time. The albumen, too, has notably diminished, and latterly I have ordered him sulph. iron and quinine, for the purpose of improving his strength.

You will remark that, in both of these cases I have endeavored to drain off the fluid from the kidneys, in preference to the bowels, and it is for this reason: When liquid discharges from the bowels are produced, it is always a serous fluid, containing various other matters; and as this serum is derived from the blood, such a drain, continued for any length of time, must necessarily weaken the patient to a very great degree, and thus tend to keep up the very causes which originally produced the disturbance. The kidneys, on the contrary, drain off principally the water, and unless the specific gravity of the urine thus voided is high, it can scarcely be said that any material waste is going on. Do not understand me to imply that waste, and very great waste, may not be produced by diuretic remedies. On the contrary, when the agents are properly selected, as, for instance, the alkalis in rheumatism, very decided emaciation may be produced by their use in a short time. You have more than once seen rheumatic patients in these wards, waste most rapidly under the use of large quantities of bicarb. potass., and have remarked at the same time, that the urine, instead of containing six hundred or seven hundred grains of solids, had increased to one thousand two hundred, and even one thousand eight hundred in twenty-four hours; and this for days together. Indeed, herein lies, according to the views I hold, as I have more than once told you, the efficacy of these salines in rheumatism. Not, as has been assumed, in neutralizing some assumed element, but in producing general waste, and of course wasting the rheumatic elements, whatever they may be, at the same time. But what I desire to explain to you now is this: When the object is to produce an alterative effect, as in rheumatism and analogous diseases, and the kidneys are the means selected to eliminate the morbid substances, the solids are of every importance, the fluids in which they are dissolved of little or none. Thus, eight hundred grains of solids in such cases is a decided improvement over four hundred; but whether the eight hundred grains is dissolved into twenty or forty ounces of water, is of secondary importance. On the contrary, when it is desired to obtain a diuretic action, as in heart disease or dropsy, the fluid is all important, the solids less. Here, then, a material

point is gained, if the urine is increased from twenty to forty ounces; but different from the other case, it is much preferable that the solids should remain at four hundred grains, rather than be increased to eight hundred, for there is no object in producing waste of tissue. For this reason, colchicum, the salines, &c., are preferable in the first instance, but squill, juniper, and similar agents in the latter. And in the patient to whom I have just referred, although his urine was increased from seventeen ounces to sixty, yet the specific gravity fell from one thousand and twenty-two to one thousand and nine; so that the waste of solids was not materially increased, and he therefore, under good diet, has improved in strength.

Still more interesting than the two cases I have spoken of to-day, are three patients laboring under dropsy and albuminous urine, dependent on kidney disease; but these I must reserve for another occasion.—[*American Med. Monthly*.

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*Treatment of Asthma by Stimulants.*—*Theory of the Modus Operandi of Stimulants.*—*Illustrated by Coffee.*—*Curative Influence of Violent Emotion.*—*Its Action analogous to that of Stimulants: Acts also as a "Nervous Derivative."*—*Cases.* By HYDE SALTER, M. D., F. R. S., Assistant Physician to Charing Cross Hospital.

ONE of the commonest and best-reputed remedies of asthma, one that is almost sure to have been tried in any case that may come under our observation, and one that in many cases is more efficacious than any other is strong coffee. To the question, "Have you tried strong coffee?" the asthmatic is pretty sure to answer "Yes;" and he is also pretty sure to add that it gives him relief.

About the *modus operandi* of this remedy, I was long puzzled; I could not make it out; and it is only lately that I think I have stumbled upon it. The *rationale* of its efficacy is, I think, to be found on the one hand, in the physiological effects of coffee—the particular nervous condition that it produces—and, on the other, in a feature in the clinical history of asthma which I have long observed, and of which I think the efficacy of coffee is highly corroborative.

This fact is, that *sleep favors asthma*—that spasm of the bronchial tubes is more prone to occur during the insensibility and lethargy of sleep, than during the waking hours, when the senses and the will are active. I have already referred to this in my observations on the "Clinical History of Asthma,"\* in explaining

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\* *Medico-Chirurgical Review*, July, 1858 and 1859.

why the paroxysm invariably, (or almost invariably) chooses the hours of mid-sleep for its onset. Let me just refer to this subject again; for it is both interesting and important, as it explains a curious and very constant phenomenon in asthma—the hour, namely, of the attack—is highly illustrative of its pathology, and furnishes the key to some of its treatment.

I think, then, that sleep favors the developement of asthma in two ways:

1st. By producing insensibility to respiratory arrears.

2d. By exalting reflex action.

The way in which sleep favors the development of asthma, by producing insensibility to respiratory arrears, and exalting reflex nervous action, I have already sufficiently explained in the papers on the Clinical History of Asthma, to which I have referred.

There can be no doubt that sleep *does* exalt reflex nervous action. It is a fact, so abundantly inculcated by the history of disease, as hardly to require illustration or proof. The phenomena of epilepsy, cramp, lead tremors and other examples of deranged muscular action, all teach it. It is just as sleep comes on, just as the will is laid to rest, or during sleep, that these different forms of involuntary muscular contraction must commonly occur. Any one, to convince himself of it, has only to fall asleep sitting on the edge of a chair, in such a position that it shall press on his sciatic nerves. As long as he is awake, his legs will be motionless; but the moment he falls asleep they will start up with a plunge and suddenly wake him. As soon as he is awake they are quiet and still again, with no disposition to start, till he again falls asleep, and that moment they start again and wake him; and so he may go on as long as he likes. He changes his position, sits back in his chair, and they start no more. I need not explain what so clearly explains itself. I heard, some years ago, of a case of what might be called chronic traumatic tetanus, in which the source of irritation—the excito motory stimulant—was extensive disease of the hip-joint. The moment the patient fell asleep he was seized with opisthotonos, which, of course, immediately woke him. On awakening, the tetanus vanished; on again falling asleep, it reappeared; and this alternation of falling asleep and waking continued for weeks, if not for months, the patient getting no continuous rest till he was quite worn out. As long as he was broad awake, the tetanus never appeared.\* Hosts of similar facts, illustrative of the same truth, might be cited.

Anything that exalts, reflex nervous action, increases, of

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\* I was further informed, respecting this case, that, after everything else had failed, sleep was procured, with an immunity from the tetanic spasms, by putting the patient into the mesmeric state. In this way he got rest, and greatly improved; but what was the ultimate issue of the case, I do not know.



course, the potency of reflex stimuli. Now, I have elsewhere endeavored to show that the phenomena of asthma are, in almost every case, those of excito-motory action, and that the exciting causes of asthma are, in the great majority of instances, such as act by a reflex circuit. They would, therefore, on the asthmatic's falling asleep, immediately acquire a potency they did not before possess, just as the pressure on the sciatic nerve did, in the illustration I have given. Thus it is we see that the asthmatic may gorge himself with unwholesomes, and yet, as long as he keeps himself awake, suffer no consequential asthma; the irritant is there, the undigested food is in the stomach, but as long as he is awake, as long as the will is dominant, it is inadequate to the production of reflex phenomena. But let him fall asleep, and in an hour or two the paroxysm will be established.

And not only will *sound sleep* determine, by this exaltation of reflex susceptibility, the production of asthma by its exciting causes, but a small dose of the same condition—sleepiness, drowsiness—will favor the supervention of asthma in a proportionate degree. Not only is drowsiness a premonitory sign of an attack, but a powerful predisposer to it; and the asthmatic knows that he yields to it at his peril. I have often noticed in asthmatics, that the sleepiness that is so apt to come on after dinner, will be accompanied by a slight asthmatic oppression and wheezing: as the drowsiness deepens, so does the asthma, and in this way it may settle down into an attack; but if the patient rouses himself, or if anything occurs to engross his attention so as to wake him up, broad awake, the asthma quickly vanishes. It is in this way, I think, that is to be explained the fact, that asthmatics can dine out late and unwholesomely with impunity; while, if they dine at the same time and in the same way at home, asthma is sure to come on. At home they want that excitement which at a dinner party, keeps the animal functions in a state of exaltation and the mind vividly awake, and effectually banishes the least approach to drowsiness. Of the fact, there is not the slightest doubt. I know an asthmatic, who can with impunity, dine out at seven o'clock, as dinner-eaters of the nineteenth century are apt to dine—shirk nothing from soup to coffee—walk home at ten o'clock, a distance perhaps of four miles, with the wind of a deer-stalker—go straight to bed, and get up the next morning scathless; but if he were to dine at home at six, or even at five o'clock, he would be wheezing at nine, and by four the next morning, downright asthmatic.

I believe a certain amount of the curative influence of fright, or other strong mental emotion, is to be explained in the same way.

"But why," it may be asked, "all this round-about digression? What has all this to do with the curative influence of coffee?"

I believe it is simply its explanation. For, what are the physiological effects of coffee? They consist in the production of a state of mental activity and vivacity, of acuteness of perception and energy of volition, well known to those who have experienced it, and to a certain extent very pleasurable, and which is the very reverse of that abeyance of will and perception, which, in drowsiness or sleep, so favors the development of asthma. In sleep, will and sense are suspended; after taking strong coffee, they are not only active, but exalted. It produces rapidity of thought, vivacity of spirits, clearness of apprehension, increases tenfold the working powers, and altogether intensifies mental processes. Not only is there no disposition to sleep, but sleep is impossible; the thoughts hurry one another through the mind; the bodily movements are energetic and rapid; and if the effects of the drug are pushed far, a very unpleasant condition is produced, something like that of delirium tremens, *minus* its hallucinations. Now, if the suspension of the will, or its depression, favors the production of excito-motory phenomena, and thus favors the development of asthma, is it unreasonable to suppose that its exaltation should prevent or cure it? It *must* do so—if not positively, at least negatively, by removing the predisposing condition. And bearing in mind this marked physiological effect of coffee—that this exaltation of the animal nervous functions is exactly what it produces—it certainly does seem to me reasonable to suppose that this is its *modus operandi*. And if of coffee, then of strong tea, and alcohol, and ammonia, and ether, and other stimulants of undoubted value in asthma.

To show that this is the *rationale* of the cure of asthma by stimulants, I do not think it is necessary to show that it is only when the asthmatic is drowsy, or has been sleeping, that they do good. If anything that rouses the asthmatic to a state of wakefulness, will put a stop to asthma, that was creeping on him while he was sleeping or sleepy, *à fortiori* anything that carries him beyond a state of mere wakefulness—that gives him an active, not a mere passive wakefulness, will be still more efficacious, and will be adequate to the checking of an attack, that, in spite of his being broad awake, was gaining on him.

The very frequency with which coffee gives relief, makes it hardly worth while for me to narrate the history of any cases. I should think, from my own experience, that coffee relieves asthma in two-thirds of the cases in which it is tried. The relief is very unequal, often merely temporary, and sometimes very slight; sometimes it is complete and permanent. It is often taken in the morning; and patients will tell you that, previous to taking their coffee, they are not fit for anything, can hardly move about; but that taking it is immediately followed by freedom of breathing, and an ability to enter at once on their daily occupation.

There are two or three practical hints with regard to the administration of coffee, that are worth bearing in mind.

1. It cannot be given too strong. Unless sufficiently strong to produce its characteristic physiological effects, it does no good, but rather harm; moreover, if given very strong, it need not be given in much bulk, and quantity is a disadvantage—its effect is less rapid, and it oppressively distends the stomach.

2. I think it is best given without sugar or milk—pure *café noir*.

3. It should be given on an empty stomach; if given on a full stomach, it often does great harm, by putting a stop to the process of digestion; indeed, so much is this the case, that I consider coffee accompanying a meal, especially late in the day, so peculiarly apt to induce asthma, that it deserves to be classed among its special provocatives. I have mentioned elsewhere the case of an individual who never dared to take the usual after-dinner cup of coffee—it would make the simplest dinner disagree with him. But the same asthmatic found in strong coffee, on an *empty stomach*, one of the most valuable remedies.\*

4. For some reason or other, I don't know why, it seems to act better if given hot—very hot.

I adverted just now to the influence of mental emotion on asthma, and stated my belief, that the *modus operandi* was, like that of coffee or other stimulants, by producing an exaltation of sense and will—an intense activity of the intellectual part of nervous action—and proportionately lessening the tendency to excitation; and this it does to a much greater degree than stimulant remedies, and its effects are, therefore, proportionately more sudden and complete. It was indeed, the curative influence of violent emotion, and the observation that it and coffee-taking, alike banish that condition in which asthma is most prone to come on, that first suggested to my mind the theory of the action of stimu-

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\* Since writing the above, I have received the following account from an asthmatic gentleman, singularly confirmatory of my own observations:

"I used to think," writes my informant, "strong coffee the best of all remedies. I remember one instance especially, only a pattern of many others, but more striking when told. With bent back, high shoulders, and elbows fixed on the chair arms, I had been laboring for breath all the afternoon. About five o'clock I had two breakfast cups of strong coffee. The hard breathing disappeared rapidly and completely. My sisters were dancing in the next room, and in less than an hour I was dancing with them, quite free from asthma.

"Of late, coffee has often had an opposite effect upon me. The after-dinner cup of coffee, to which I have been for several years habituated, now produces a sensation of stuffing of the chest, and incapacity of moving about. I believe this is because it stops digestion; and the reason I did not suffer for some years, I take to be, that my originally most excellent and enduring stomach, could stand it so long and no longer. Coffee, on an empty stomach, I still deem a most valuable remedy. I do not share the prejudice against putting milk and sugar into coffee that is used as a medicine, provided that it remain *café noir* and be not made *café au lait*."



lants on asthma, that I have just endeavored to propound. I think, too, that mental emotion acts, if I may so express it, as a nervous derivative. There are many phenomena, both in health and disease, that seem to show that only a certain amount of nervous activity can be in operation at a certain time; and that, if a nervous action of one kind comes into operation, another that had been previously going on is immediately depressed or arrested. Such is the explanation of the well known experiment of the two dogs, one of which was taken hunting immediately after a meal, while the other was allowed to sleep. In the one that was taken hunting, digestion, on its return, was found hardly commenced; in the other it was completely over, and the stomach empty. In the sleeping dog, the whole vital dynamics, not being otherwise employed, were appropriated by the function of digestion; while in the hunted dog, they were entirely taken up by its energetic locomotion, and drafted away, as it were, from that nervous superintendence of digestion without which the function cannot be carried on.\* The power of strong emotion, or hard study, in retarding digestion is an analogous fact. Just in the same way, I think, the extraordinary activity and exaltation of thought and perception, that characterize the state of mind that the taking of coffee, ether, and other stimulants produces, acts as a nervous derivative in asthma, and diverts from the nervous system of the lungs, that morbid activity which engenders the spasm of the bronchial tubes.

The cure of asthma by violent emotion, is more sudden and complete than by any other remedy whatever; indeed, I know few things more striking and curious in the whole history of therapeutics. The remedy that stands next in speed and efficacy—tobacco pushed to collapse—takes time, a few minutes at least; but the cure of asthma by sudden alarm, takes *no* time; it is instantaneous, the intensest paroxysm ceases on the instant. This is a fact so little known, as far as I can see, and yet so practically important and theoretically interesting, that I think it will not be unprofitable if I endeavor to impress it more deeply by the narration of some cases of its occurrence.

CASE I.—A gentleman suffering an unusually severe attack, so bad that he had been unable to speak or move all day, was suddenly alarmed by the illness of a relative; he ran down two flights of stairs and up again, and administered the restoratives he had procured, and then observed, to his astonishment, that his asthma was gone. This gentleman tells me, that on many other occasions, different forms of mental emotion have cured his asthma.

CASE II.—C. R., a confirmed asthmatic, states that, when he

\* See Dr. John Reid's experiments in Todd's *Cyclopædia of Anatomy*, vol. iii., p. 899; also those of Bernard and of Bishoff, in Müller's *Archiv*. 1843.

was suffering from an unusually severe attack, a fire occurred just opposite his house. Previous to the occurrence of the fire, he was in bed, breathing with the greatest difficulty, and unable to move. When the excitement of the fire was over, he found that he had been standing in his night-shirt, looking with the rest, out of the window, and that he had quite forgotten all about his asthma. On another occasion, when he was suffering from an attack, some sudden anxiety arose about two of the members of his family being out late; the alarm from which he suffered, relieved his asthma, but not so suddenly as in the case of the fire. On another occasion, a sister of his was seized with sudden illness that seemed to threaten suffocation; he was suffering severely from asthma at the time, and was in bed; he jumped out of bed in great alarm, and found then that his asthma was perfectly cured. He was sufficiently well to run for a doctor, and continued well throughout the day.

CASE III.—Not long ago I was informed by a patient at the hospital, who had suffered greatly for many years, that, however severe an attack might be, venereal excitement would almost invariably cure it. He told me also, that, when a youth, he had been guilty of the practice of onanism, and that the unnatural excitement thereby produced, had just the same curative effect on his asthma. Indeed, he pleaded this effect of it as a sort of excuse for the practice; and assured me, that when his breath was very bad at night, he used to resort to it for the purpose of curing it.

I have known two or three cases in which sexual excitement has had just the same effect.

CASE IV.—The following account of the curative influence of mental excitement I have received from a medical friend, who has suffered from asthma all his life: "On one occasion I was sitting with fixed elbows on a sofa, breathing hard; a lady came into the room whom I had known very well, and whom I had not seen for several years. I got up to receive her, and sat down again on a music-stool; with no especial purchase, therefore, for the respiratory muscles, and yet with comparative ease of breathing. This ease lasted for about an hour, and then the difficulty of breathing came on again. I attribute the temporary amendment to the diversion of nervous energy. Just the same thing has happened to me more than once. On another occasion I was suffering a good deal at a farm house. I got on horseback with some difficulty, and an anxious hope that the horse would go quietly, to fetch myself an emetic from a town three miles off. The horse ran away with me. I pulled in, at first weakly and almost despairingly, but the need of exertion brought the power; after a run of about a mile, I succeeded in pulling up, and was delighted to find my asthma gone. Another time I was breath-

ing very hard, and a friend engaged me in an argument. At first I could only get out a sentence in successive gasps; but gradually, as I got excited, the hard breathing went off, and I could talk fluently."\*

From the foregoing observations, then, I think we may conclude—

That, since the abeyance of the will favors, in proportion to the degree of the abeyance, that development of asthma, and since the effect of strong coffee is to dispel such suspension or depression of volition, and restore the will to its wonted, (or even an unwonted) activity, it is by thus exalting the will, and so disfavoring the development of excito-motory action, that this remedy relieves asthma.

That the same interpretation applies to the relief of asthma by all other stimulants whatever.

That thus strong coffee and mental excitement, although apparently so different, belong to the same category of remedies for asthma.—*Edinburgh Medical Journal, and American Med. Monthly.*

### *Oxalate of Lime in Urinary Sediments.*

M. Gallois read a memoir on this subject before the Académie des Sciences, the purport of which is contained in the following résumé :

Oxalate of Lime is a substance that can be readily recognized in the urine of the healthy human being, at all ages. It appears in considerable proportion under the influence of certain kinds of food, and probably of certain medicines. It is very commonly met with in the urine of the sick, but excretion does not constitute, in itself, disease. Oxaluria is thus not a morbid entity, but only a symptom common to affections very diverse in character. Nevertheless it is proper to say that oxaluria has been observed very often in spermatorrhœa, and in certain diseases of the nervous system, especially in dyspepsia.

There is a substance which very frequently accompanies oxalate of lime in urinary sediments, as well as in gravel and calculus, and this is crystalized uric acid. The very common co-existence of these two, seems to explain the formation of the oxalate in the system.

The connexion supposed to exist between oxaluria and diabetes, cannot be admitted:

The oxalic acid (and consequently the oxalate of lime,) ap-

\* For additional cases of the cure of asthma by mental emotion, I must refer the reader to a paper on Pathology of Asthma, in the *British and Foreign Medico-Chirurgical Review*, for July, 1858.



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pears to be derived from the uric acid, and should be considered as a higher degree of oxidation of this body, or of the elements that form it, so that wherever uric acid or its elements are found in the body, oxalic acid can be produced under the influence of a higher oxidation, which is effected in the blood.

Oxaluria requires ordinarily no other treatment, than that appropriate to the physiological or morbid condition with which it is connected. Hence, the contradictory character of the medication heretofore proposed for its treatment: to abstain from food and medicine containing oxalic acid, to use small doses of nitro-chlorhydric acid in a bitter tonic infusion, or nitrate of silver, (in the sandy form of oxaluria,) or colchicum in some cases, or phosphate of lime, &c., &c.

Gallois is satisfied that *alkaline mineral waters* are the most *efficacious* in hindering the excretion of oxalate of lime, especially where there is a coincident deposition of uric acid, a condition which seems to him most frequent.—*Gaz. des Hôpitaux*, and *Ibid.*

Means of Eliminating Grains of Powder from the Skin. By Prof. BUSCH, of Bonn.

PROF. BUSCH has taken the idea of this treatment from the method employed by M. Hebra, for freckles. This method consists in provoking, by applications of a strong solution of corrosive sublimate, and eczematous inflammation, after the cure of which the spots on the skin disappear. As the pigment in freckles is not in the epidermis, but in the *rete mucosum*, (rete Malpighii,) M. Busch concludes that in the development of the eczema, the epidermis not only is raised, but that the most superficial layer of the dermis is acted upon; and on this account, he has been led to propose this means for eliminating grains of powder from under the skin, when it is a recent case, and they are too numerous to be removed by an instrument.

In a case treated in this manner, M. Busch made use of a solution of corrosive sublimate, of the strength of five grammes (℥iv.) to a quart of water, the application of which, on account of the recent injury, was not continued more than an hour the first day; but the succeeding days, as the patient felt only a slight burning sensation, these applications were made successively during many hours, until the fifth day, when the whole injured part was covered with a considerable eczematous eruption. The applications were then suppressed, and the next day a part of the vesicles simply dried, while others produced their crusts. When one of these crusts was elevated, on its under surface,

grains of powder could be seen, and below these, an epidermis of new formation. As this new epidermis was very tender, M. Busch waited for twenty-four hours, then elevated with a spatula, all the crusts and scales of the epidermis, and at the same time a great number of grains of powder. In this manner, almost all the grains of powder which were situated between the new and old epidermis were detached, and were easily eliminated, with the exception of a small number, only appreciable by a very close examination, and which were situated deeper than the rest. Whether this method can be employed in old cases, experiment only can prove. M. Busch adds, that all agents strongly irritant can be employed for inducing this inflammation, in order to produce the elimination of the foreign body; but the sublimate solution is preferable, because the degree of irritation can be exactly graduated by it, and after the eczema it produces has disappeared, the skin preserves its normal color.—[*Gaz. des Hôpitaux*, from *Virchow's Archives*, and *Ibid.*

Treatment Preventive of the Sequelæ of Measles and Scarlatina.

MANY precautions are adopted by physicians to prevent the unfortunate sequelæ of these diseases, and the confinement to the sick-chamber for several weeks after convalescence ranks among them. To avoid this, M. Scoutetten, of Mentz, has devised the following method, which we find in the *Gazette Hebdomadaire*, for April 1, 1859:

As soon as convalescence commences, that is to say, when the skin is no longer red with the eruption, he rubs over the whole body slightly warmed, oil of sweet almonds or olive oil, and puts the patient in bed again, for two hours. The next day he gives him a tepid bath for an hour, then places him in bed, and if the skin is very dry, a new friction with the oil is made. These two frictions and one bath are usually enough to remove all danger. Still, in severe cases, it is well, to avoid any risk, to repeat the means indicated from time to time, until the skin regains its suppleness. These precautions taken, convalescents may be permitted to go out without fear of bad results.

In order to justify this method and explain its importance, it is necessary to remember the state of the skin in infants affected with measles or scarlet fever. At the commencement of the disease, the dermis is red and swollen; during convalescence the tissues return to their normal condition, but the epidermis, which has been distended, not being elastic, becomes detached, and falls off in the shape of fine powder when the attack of

measles has been light, or is removed in large scales when it has been severe, and especially when the eruption has been that of scarlatina. The skin beneath is dry and harsh; perspiration and transpiration are badly performed, and the functions of this important organ are impeded or suspended. When the skin acts badly, the kidneys and the mucous membrane of the air-passages or of the digestive apparatus, undertake to supply its place; thence arises a thick, sedimentous, and sometimes albuminous urine, severe diarrhoeas, which terminate in emaciation and death; obstinate coughs, sore throats, croup, pneumonias, pleurisies with effusion; finally, serous infiltrations into the areolar tissue of the limbs, or accumulations of liquid in the abdomen, and in other cavities where serous membranes exist. These severe symptoms occur after an exposure to cold of the skin, which inflammation has rendered more sensitive, and the functions of which are interfered with by an inert epidermis, which obstructs its pores. The object of the treatment proposed by M. Scoutetten, is to oppose the causes of these symptoms.—*Amer. Med. Monthly.*

On the Treatment of Chronic, Organic Diseases of the Heart. By
Professor LEBERT.

THE treatment of chronic organic diseases of the heart, offers one of the most difficult tasks to the practising physician; it is nevertheless certain that a proper and thorough treatment of these diseases, may do a great deal toward alleviating the condition of the patients, and towards prolonging their lives. Prof. Lebert advises especially, great care with blood-letting, purgatives, and all debilitating measures in the treatment of organic diseases of the heart. In valvular disease, he employs venesection but very rarely. If in the course of the disease, an acute inflammation, in the form of pericarditis or endocarditis, occurs, it is often useful to extract blood to the amount of six ounces, by means of cups or leeches; if, after this, an energetic treatment is still necessary, such advantage will be obtained from the application of a large blister, and the endermatic use of half a grain of morphia daily. The author's observations on the use of digitalis we may omit, as generally known. Most allied to digitalis, in regard to its therapeutic effect, is aconite. Although it acts less heroically and more slowly than digitalis, and does not decidedly diminish the frequency of the pulse, aconite is nevertheless a remedy which is capable of lessening considerably the dyspnoea, palpitation, and the various subjective symptoms of the patient, even the tumultuous excitement

of the heart. A very important point to be considered in the treatment of advanced diseases of the heart, is the general cachexia and debility of the patient gradually developed. Lebert has examined for several years, the muscular structure of diseased hearts, in order to see how far the gradual decrease of the functional capacity of the same depends upon changes in the muscular fibre itself. From these investigations it results that very frequently a small degree of fatty degeneration of the primitive cylinders of the muscles of the heart exists, even in cases where the color and consistency of it does not indicate the fact. The gradual increase of general debility and of the local weakness of the heart, the progress of anæmia and hydræmia, lead to the question, what effect tonics, especially iron, would have in organic disease of the heart.

The better the patients are nourished (with the avoidance of strongly stimulating food,) the longer they resist the evil influence of the disease; the patient should, therefore, not be restricted to a vegetable diet, but a moderate amount of animal food should be allowed with it. Of beverages, tea, coffee, alcoholic liquors, and wine in large quantities ought to be avoided, whereas, infusion of cocoa, or decoction of roasted acorns, are very appropriate, particularly for breakfast. Light beer, or small quantities of old wine mixed with water, may be allowed at the table. Besides an amalystic diet, the use of iron is indicated, particularly in the later anæmic and cachectic period of the disease. Lebert recommends especially, iron reduced by hydrogen, (gr. ij. at each meal,) or twenty to twenty-five drops of the *tinctura ferri pomati*, if necessary, in connection with equal parts of tincture of aconite. The tartrate of iron and potassa (three to five grains three times daily,) is a very useful preparation; and as the effect of iron is perceptible only then, when its use is persisted in for a long time, it is necessary, occasionally, to make a change in the preparation employed. The author has not derived much advantage from the application of blisters, setons, and moxas.—[*Wien. Medizin. Wochenschrift, Mediz. Neuigk.*, and *Ibid.*

On the Use of Tannin in Large Doses in Albuminous Anasarca.
By Dr. GARNIER.

PURE tannin, tannic or gallic acid, was at first prescribed in hæmorrhages and diarrhœa, in pretty small doses, as it was considered a poison. Later, many practitioners recommended its use in nocturnal sweats, in diabetes, and in atonic diseases. Dr. Garnier, of Paris, was induced to try tannin in the albuminous

anasarca, consecutive to scarlatina, a disease which so obstinately resists ordinary measures. From the observations he has lately published in the *Archives Générales de Médecine*, it results that under the influence of large doses of this agent, the general infiltration of the cellular tissue, and the presence of albumen in the urine, have simultaneously disappeared. Dr. Garnier gives the following conclusions at the end of his treatise:

1. Tannin, in the dose of fifteen to thirty grains through the day, cures anasarca or œdema which has been passively developed, and co-exists with albuminous urine. 2. Its curative action manifests itself by copious urine, which gradually assumes its physiological characters, by perspiration, loose stools, etc. 3. These symptoms appear on the second day of the administration of the tannin. 4. Given in solution of about three to eight grains, tannin does not derange the digestive organs. 5. The action of tannin seems to be primitively directed upon the fluids of the economy, the albuminous principles of which it coagulates and plastifies; its action upon the solids seems to be consecutive, tonic, and astringent.

The facts reported by Dr. Garnier, are quite interesting; it is, however, important to remark, that tannin has been given only in cases of transitory albuminuria, following congestion of the kidneys, and that albuminous or granular nephritis, is not at all in the question. This distinction should be made, in order to appreciate therapeutic methods properly.—[*Archives Générales*, and *Ibid.*

Virchow's Cellular Pathology.

THE object of Dr. Virchow's work on Cellular Pathology is to establish a new foundation for the creation of a Philosophical Medicine. Dr. Virchow desires to put an end to all the one-sided theories now in vogue—to the theories of the humorist and the solidist; to the crisis, exudation and blastema, iatro-chemical and iatro-mechanical theories. In the place of all these partial stories, he proposes a knowledge of the fine organic processes of cell-life, as the only foundation of a rational doctrine of disease. The cell-theory, and its relation to practical medicine, however, is not altogether a novelty; but according to Virchow, it has as yet, only reached a certain stage of progress. What has been heretofore done, stands as a mere forerunner to his cellular pathology—just as ideas stand to deeds, and imagination to investigation. The foundation upon which he fixes his deductions, are actual histological facts, which he places before his disciples in the shape of microscopical preparations and

drawings. It will be said by some, that there is nothing new in the founding of pathology on histology. And on this score reference may be made to the last edition of Rokitansky's work, which is filled with numerous microscopic representations of diseased structures. It may be indeed asserted that Rokitansky even laid the axe to the root of his earlier, and somewhat humoral, style of pathology. He has rejected the doctrines of Crases. In his third edition, Rokitansky says: "The origin and increase of cells and nuclei take place, either immediately out of a blastema, as free cells and nuclei, or in mother-cells and mother-nuclei, endogenously;" and he adds, "the extra-cellular origin of these elements out of a free blastema, cannot be doubted, in my opinion, at the present moment." Virchow, on the other hand, utterly rejects the theory of the origin of free cells in a structureless blastema; just as elsewhere, men reject the theory of equivocal generation. He asserts, that only out of ready-formed structures arise cells; and that out of old cells there is a continual growth and development of new cells, *omnis cellula ab cellula*. He substitutes a cell-growth theory for the blastema theory. He does not consider exudation as a peculiar product of the capillary vessels, containing plastic and other constituents; but he regards it as an ordinary transudation mixed with the product formed in the diseased structures outside the vessels, among which products may be mentioned fibrin, pus, mucus, etc. Hence, then, according to Virchow, the inflammatory process does not take place in the capillaries, but in the elements of the tissues themselves—in the cells which through an increased activity attract the blood to them, and become thickened and swollen. In this manner, by cell-growth and by attraction of the juices, likewise arise all other new formations; the homogeneous, as well as the heterologous and malignant, so also new areola, or bony tissues, pus, tubercle, sarcoma, and cancer, the disease of plants, etc. The history of heterologous forms is this: in a particular place, or at a particular time, or in a particular degree, there arises a growth which is not proper to the part. Some other structure normal in some parts of the body, is substituted at the part for the structure normal to it, forming what Virchow calls a pathological substitution of tissues. The malignancy of heterologous growths consists in this: that the tissue affected is, by its vascularity, disposed to form a fluid, which is injurious to the structures around. The dyscrasiæ, also, can only arise through the propagation, by means of the blood, of the products of certain existing local affections. For example, the so-called phlogistic or fibrinous crasis depends originally upon a local production of fibrin in an inflamed tissue—fibrin being always a local product, and never arising in the blood. Many other blood-diseases also depend upon diseased states of

the spleen and lymphatic glands—those being glands in which white and red blood corpuscles arise. The disease which authors call pyæmia, consists partly of thrombosis and emboli, partly of ichonhæmia, of leucocythemia; the substance which forms the obstruction in phlebitis not being pus, but a purulent-like detritus. Pus arises only out of tissues. Life and disease, in fact, cannot be explained by physical or chemical actions, but are the developments and processes of organized elements.—*Schmidt's Jahrb.—Med. Times and Gazette, and Amer. Med. Monthly.*

Contributions to the History of Nervous Diseases of Syphilitic Origin. By Dr. GJOR.

THE description of these diseases is based upon the accurate observations of thirty cases. Fourteen of the patients were less than thirty-five years of age, eleven were from thirty-five to forty years, and only one individual was more than forty-five years old.

In the great majority of the cases, the invasion of the disease was preceded by distinct prodromic symptoms; they consisted of pain in the lumbar region or in the extremities, or of an obstinate headache, with nocturnal exacerbations.

Most frequently the characteristic signs were of a paralytic nature; the symptoms which accompanied the commencement of the paralysis, were in general not very serious, and rather fugacious; fifteen times attacks in the form of apoplexy occurred, but were of but little intensity; five times only, these attacks gave rise to a complete loss of consciousness, and consecutively to weight in the head; twice the loss of consciousness was associated with convulsions; in two cases the apoplectiform attack occurred twice. Of these fifteen cases, there were only four in which the paralysis supervened suddenly, and without the health having been seriously impaired; in the eleven other cases, it developed itself imperceptibly.

In half of the cases hemiplegia was noticed; eight times, paraplegia; twice, facial hemiplegia; in three cases, paralysis confined to one extremity; in two, a general weakness of the movements of the four extremities; in nine, anæsthesia; and in two, hyperæsthesia. The paralysis of the extremities, was accompanied, in several cases, by paralysis of the sphincters, and in four cases by amblyopia, with dilatation of the pupil.

The interval which separated the first symptoms of constitutional syphilis from the paralytic attacks, was scarcely obvious in two patients; several months to a year, in eleven; one to five years, in eight patients. In the rest of the cases, the appearance of paralytic symptoms was retarded still longer.

It seemed that the patient who had suffered from several relapses of the symptoms of constitutional syphilis, were not any more exposed to the nervous diseases, than those in whom these symptoms had been observed only once; the number of cases of the first category is, in fact, only ten in the statistics of Dr. Gjør; he observes, however, that the number of his cases is not sufficient to deduce from them unobjectionable conclusions.

The treatment of the nervous diseases of syphilitic origin, has not given up to the present time, very satisfactory results. Of the thirty patients of Dr. Gjør, only five were cured; in twelve, a more or less decided amelioration was obtained; in six cases, no change took place, and seven times the disease had a fatal termination.

Dr. Gjør employed particularly the iodide of potassium, and often combined with it strychnia, or the preparations of arnica; this remedy has afforded him the most advantageous and prompt results. Mercury was employed in five cases, and was not successful in a single one. Dr. Gjør tried syphilization several times; in one case only it produced a rapid cure, in the six other cases, it was not followed by any improvement; in all syphilized patients the state of the general health was, however, much improved.

The three autopsies reported by Dr. Gjør, prove, at least, that nervous diseases of syphilitic origin, are not always owing, as was formerly supposed, to exostoses situated in the cavity of the cranium or of the spine; in one case, Dr. Gjør found softening of the brain; in the two others, no lesion of the nervous centres could be detected.—[*Schmidt's Jahrbücher*, and *N. A. Medico-Chir. Review*.]

On the Treatment of Prolapsus Ani in Children. By M. GUER-SANT.

IN a small hospital in London, to which patients suffering from diseases of the rectum alone are admitted, prolapse of the anus is not treated by operation. According to Dr. Salmon, this disease can be cured, not only in children, but also in adults, by the evacuation of the bowels in the recumbent posture, as in this position the patient cannot strain much, thus, generally, preventing the descent of the intestine. After the observance of this treatment for some time, the relaxation of the parts, which permitted the prolapse, disappears, and a cure is effected. At the same time vegetable astringent injections are employed, although alum will be found useful. As a local application strychnia may also be mentioned. This was first employed

successfully by Duchassoy, who made two or three very small blisters around the margin of the anus, and dressed the raw surfaces with the ointment of strychnia. Dr. Johnson treated in 1854, two cases by the local application of the same remedy; he states that in the lighter and more recent forms of prolapse he obtained a cure by regulating the bowels, employing astringent injections, and administering tonics. In neglected cases, when the sphincter is much relaxed, strychnia may be of some use, but it is not, however, to be recommended, as it is unreliable in grave, and superfluous in light cases; it is, moreover, troublesome, and not without danger. Dr. Johnson considers cauterization after Guersant's method more valuable.

In the Metropolitan Free Hospital, Mr. Hutchinson employs the tincture of nux vomica, in very small doses, since he believes it imparts tone to the sphincters and walls of the intestines.

Sir Benj. Brodie prescribes, internally, calomel and rhubarb, and uses injections of the dilute tincture of the chloride of iron.

Mr. Ashton maintains that in children suffering from this affection, the liver is principally to be attended to; and Mr. Curling recommends the use of cod-liver oil, after sufficient purgation.

Mr. Salmon treats recent cases in children in the following way: First the patient must evacuate his bowels in no other but the recumbent posture; second, the prolapsed part is thoroughly moistened with a decoction of oak-bark and alum; third, internally, he employs calomel and rhubarb; when he orders, fourthly, tonics, and a nourishing diet.

When the usual remedies have been employed without effect, and the symptoms remain obstinate, M. Guersant advises cauterization of the skin and sphincter muscles with the hot iron. He does not cauterize the whole of the protruded mucous membrane, as was formerly done, as he considers the measure barbarous and hazardous. He proceeds, generally, in the following manner: The child is subjected to a certain diet, and shortly before the operation an injection is administered to clean out the lower bowel. The patient is placed upon his side, his thighs are flexed, and the protruded rectum reduced; an assistant drawing away one buttock, while the operator controls the other. The cautery is about the shape of that used by dentists, either curved or straight, and terminates in a small ball, which, above, runs out into a little point. It is applied at opposite points around the anus, and must penetrate the sphincter in order to be efficient. It is also necessary to draw the margins of the anus well apart on applying the cautery, and allow the small ball, after its point has penetrated the sphincter, to act upon the margins of the skin and mucous membrane. The

patient must be placed under the influence of chloroform, and the iron be used at a white heat. If the rectum protrude during the operation, it should be pushed out of the way of the instrument. Cold-water dressings are the only applications made after the operation.

M. Guersant recommends this plan of treatment as an excellent, but not infallible means. In a few rare cases the children are cured in one day; more frequently, however, the prolapse returns in a few days, and the cure is not completed before the eighth or tenth day, when cicatrization has taken place. Sometimes a second cauterization will become necessary.—[*Behrend und Hilderbrand's Journal für Kinderkrankheiten*, and *North Amer. Med. Chir. Review*.]

Anatomical and Physiological Researches on Dropsy consecutive to Typhoid Fever. By DR. LEUDET.

THE different kinds of dropsy following typhoid fever have been described by a great many pathologists; in France this subject has received less attention than in other countries. MM. Louise, Chomel, Forget, Guerin, and Piedagnel describe only the œdema confined to the lower extremities. M. Martin is perhaps the only French author who has given an account of the anasarca and ascites following typhoid fever.

Partial œdema has been very well described by R. Virchow, (*Archiv für pathologische Anatomie*, tome ii. p. 401,) and by Magnus Huss, (*Statistique et traitement du typhus et de la fièvre typhoïde*, p. 205; Paris, 1855.)

Dr. Griesinger, of Tübingen, has given a very complete description of these dropsies (in *Virchow's Handbuch der Pathologie*, etc., tome ii. p. 173, 1857.)

"There exists," says he, "a local dropsy consecutive to the coagulation of the blood in the veins, the cause and signification of which are evident. We meet, as a very rare complication of typhoid fever, in its second stage, an extensive dropsy of the cellular tissue and of the serous membranes. This dropsy is more common in certain epidemics; I have observed it, during an epidemic which befell a population suffering from dearth, in about one-fourth of the cases. the œdema supervened generally at the end of the third week, more rarely at the end of the second; it commenced sometimes in the face, at other times in the inferior extremities, spread rapidly over the whole body, and was often accompanied by more or less ascites. A small number of patients presented, in addition, a marked albuminuria. In most cases it was not very decided, or had already

ceased. During this time the skin was warm and dry; a copious eruption of miliaria accompanied the beginning of the dropsical effusions, and persisted as long as they lasted; sometimes the pulse was at the same time slow and irregular. The internal organs showed no symptoms of disease. This dropsy lasted generally from six to ten days and disappeared mostly within a few days. It exercised no favorable influence upon the termination of the disease; in fact, only a small number of patients succumbed. The dropsy aggravated the prognosis only by the circumstance that it prolonged the period of convalescence."

M. Leudet had not seen a single case of this dropsy during nearly ten years of observation made in the hospitals of Paris; but having had charge, for about four years, of a division of the Hôtel-Dieu of Rouen, he had the opportunity of observing a certain number, and has reported seven cases of this kind in his memoir.

A careful comparison of his observations with those published by other authors enabled him to draw the following conclusions:—

The typhoid fever which is followed by dropsy is characterized in Rouen, as in Paris, by ulceration of the intestinal follicles. The serous infiltrations, whether confined to the lower extremities, or general, were of the nature principally described in Germany. They are rarely limited to the superior extremities or the face.

Sometimes the effusion takes place into the peritoneum; M. Leudet has observed no case of this kind; in one instance he met with a peritonitis.

The œdema is colorless and painless, and is, therefore, easily distinguished from erysipelas. It supervenes mostly without prodromic symptoms, and coincides often with some exacerbation of the fever, with sweats, and abundant eruption of sudamina, and an intense bronchitis. This latter coincident has been particularly remarkable in Rouen, but it is not constant. In the cases observed by M. Leudet, as well as in the epidemic studied by M. Griesinger, the œdema showed itself, generally, in the second or third week of the disease, and disappeared in two or three weeks.

M. Leudet has been unable to discover albuminuria or lesions of the kidneys in any of his cases. These two morbid states have been observed, however, by Rayer, Martin Solon, Finger, Frerich, Begbie, Christison, Johnson, Griesinger, Barthez and Rilliet.

The cause of this œdéma, says M. Leudet, seems to be the constitutional weakness of the inhabitants of our city, and the very nature of the typhoid fever, which is more frequently accompanied by stomatitis, pleurisy, etc. than anywhere else.

Besides, the fevers and inflammations have generally an adynamic character in Rouen. The anasarca is not a serious complication of the fever; it prolongs, however the period of convalescence. The treatment consists of tonics exclusively.

[*Archives Gènèrale*, and *North Am. Med. Chur. Review*.]

On the Sulphate of Zinc and Sulphuric Acid as an Escharotic.
By Professor SIMPSON.

In a clinical lecture on carcinoma of the uterus and mamma and its treatment by caustics, we find the following very important remarks:

"If you make use of the caustic made by saturating strong sulphuric acid with a quantity of sulphate of zinc, dried and powdered, you can manage by dipping an ordinary quill pen in this mixture, as if you were going to write with it, to lay it in a number of lines across the tumor, the number of lines corresponding to the size of the growth which you wish to destroy. Very speedily the super-sulphate of zinc kills the skin in the course of the lines which you have drawn; and if you will now scratch assiduously with the filled pen along these lines, you will cut through the skin in a few seconds. Leave for a day the fissures filled with the caustic paste, and then every day or two by renewing the application of the scratching and caustic you can cut down to a greater depth. In making the first application I usually make a fissure of about a fourth or three-eighths of an inch in depth, and then destroy the tumor more deeply by successive applications. In this way five or six days may suffice for the removal of a good-sized tumor. Let me add, that in thus destroying and digging out, as it were, from its very base, a cancerous tumor of the mamma, or other external part—neither of the two caustics applied by the quill would suffice singly and individually. If you use the sulphuric acid alone you will find that the acid so chars and hardens the spot to which it is applied that you cannot next day cut or scratch deeper through it with the pen; while the super-sulphate of zinc paste keeps the parts soft and pliable. Again, if you used sulphate of zinc alone you could not cut through the skin or penetrate deeply with it. For that purpose the aid of the sulphuric acid is required, and the relatively slighter pain attendant upon this than upon most other caustics is perhaps explicable by the fact that sulphuric acid acts almost instantaneously in producing its destructive effects upon living tissues. Usually the healthy skin at the edge of the sloughing-out mass is granulating, contracting, and partially cicatrizing before the dead tumor itself

separates. Dress the exposed tissues or ulcer before and after the tumor is enucleated with black wash, chloride of zinc, sulphate of zinc, nitrate of silver, or any other appropriate surgical lotion."—[*Med. Times and Gazette*.

Case of Pityriasis of the Eyelashes. By Dr. JAMES G. HELDIGE.

CASE.—A weak, scrofulous-looking child came to the Eye Dispensary, Mecklenburg Street, complaining of inflammation of the eyelids. The tarsal edges were slightly ulcerated and inflamed, and the cilia were very long, and appeared of a shining brownish color, and much thicker than natural. The itching was so intense that she was constantly rubbing the lids, which aggravated her symptoms very much. The only previous treatment had been bathing the eyes with an infusion of chamomile, which she did for four or five days, without deriving any benefit from it. On examining the lashes with a lens, Dr. Heldige detected an immense number of exceedingly small pediculi, about the size of the point of a pin, which, together with their ova, were exceedingly difficult to detach. They differed from the ordinary pediculi in shape and size, the legs being very long in proportion to the body, which was small, and of a circular form. The prescription was ointment composed of corrosive sublimate, 4 grs.; tar, ʒj; and lard, 3j; about the size of a pea to be rubbed into the tarsal edges of the lids morning and evening. This had the effect of completely removing the disease in about four days, and no relapse occurred during a period of five days longer that the case remained under observation.

This disease is not by any means of frequent occurrence. Mackenzie, in the last edition of his work, mentions only one case of it, and that not occurring in his own practice, but copied from a notice published in the 'Lancet' by Mr. Lawrence. Arlt, of Vienna, states that he has seen the disease occasionally; and Desmarres, of Paris, in his recent work, published in 1858, does not even allude to it.

The species of pediculi peculiar to the body and head are also sometimes found in the above situation; but those described by Mr. Lawrence, and observed in the above case by myself, are, according to my own observation, peculiar to the eyelashes.

[*Dublin Hospital Gaz.*

Are Babies to be taught to Walk? By——— (How to Manage a Baby, A Tract; also The Sanatary Review, Jan. 1859.)

"PEOPLE talk about 'teaching babies to walk;' but babies do not need teaching, for they will be sure to get up and walk

when their legs are strong enough, and it does them harm to do so before; in this, as in very many other things, babies would be all the better for being left to themselves. But this does not suit some mothers, who are in a hurry to see their children walk; such mothers cannot rest content without putting their children into leading strings, or go-carts, or leading them with the hand. All that they generally get for their pains is the sight of their children's bandy legs and crooked ankles, caused by being forced to walk before their time. Who would be a baby?

"But, though baby should not be hurried in walking, it should be allowed to keep moving all day long, while it is awake, for the limbs cannot get strong unless they are used. The best plan is, to put a piece of soft matting and a piece of carpet on the floor, and put baby down upon them to stretch, roll, and tumble about like other young creatures. If it has a ball or a rag-doll to crawl about after, it will be 'as happy as the days are long,' and will, besides, be very little trouble, and be making its limbs strong, ready to walk by-and-by. It is a great pity to accustom a baby to be nursed, for it only does it harm, and gives the mother a world of trouble in the bargain. In the summer, it is a good plan to spread the matting and carpet on the grass in the garden, and put baby down on them, to use its limbs in the pure air and light. In short, wherever it is, and whatever it does, it should keep moving all the time. The birds, the beasts, the fish, and the creeping things are scarcely ever still five minutes together in the daytime. Moving brings life and health to all things, babies among the rest."—[*Ranking's Abstract*.

Rules for the Dietetic Treatment of Asthma. By DR. HYDE SALTER, Assistant Physician to Charing Cross Hospital.

1. The tendency of food to produce asthma is greatly increased by the state of sleep; therefore, nothing should be taken after such a time as digestion and absorption may be completely over in the stomach and small intestines, and even the lacteals quite empty, before bedtime.

2. This long fast before sleep involves a long period of inanition; therefore the asthmatic should break his fast early and heartily.

3. The quantity of food the asthmatic takes should be small; therefore it should be highly nutritious.

4. As a rule, the tendency of food to produce asthma is in direct proportion to its general indigestibility; therefore the asthmatic's diet should be of the simplest and plainest kind.

5. But there are some articles of diet that have a special tendency to produce asthma; therefore from these the asthmatic should exercise the strictest abstention.—[*Lancet*.

EDITORIAL AND MISCELLANEOUS.

DYSMENORRHOEA.

[A recent paper, published originally in the *Charleston Medical Journal and Review*, has been kindly sent us by the author, for examination. The ingenuity and utility of the new instrument therein described, as well as the acknowledged difficulty ordinarily attending the treatment of Dysmenorrhœa, induce us to spread the article in full, upon our own pages. We welcome the suggestion of a remedy, at once, so plausible, expeditious, and easy of application.

Few Physicians, who have enjoyed much general practice, can remember with any satisfaction whatever, their cases of *Dysmenorrhœa*. Occasionally here and there, as a green spot in the cheerless waste, a case may be called to mind, in which, this or that remedy, nearly always empirically applied, has effected full and satisfactory relief. but the majority have left no impression of pleasure; remedy after remedy failing, till at last, they have been either neglected or given over, in utter despair.

Much of this unsuccess has been, we agree with Dr. White, owing mainly to there being no established theory as to the nature and origin of the disease, and, while we are not prepared to admit, that, all cases of Dysmenorrhœa depend upon mechanical obstruction at the os uteri, both our observation and experience with cases, incline us to the opinion that, such is the most frequent cause of this very painful disease. Obstruction *any where* along the course of the utero-vaginal passage, seems competent to give rise to all the symptoms peculiar to Dysmenorrhœa. There is at present, a negro woman in Jackson Street Hospital, under preparatory treatment, for the operation for Vesico-Vaginal Fistula. At the time of her entrance into the hospital, the vagina was completely occluded, the union of the anterior and posterior walls, having taken place just behind the urinary fistula. Every month, this patient suffered with all the symptoms of Dysmenorrhœa, in its most agonizing form, yet we could find no indication by which we could hope safely to reach the accumulation behind. A large tumor, the distended vagina, could be felt *per anum*, but no pointing in any part of the vaginal surface. The pain was kept down with morphine during the menstrual period—and subsided almost entirely in the intervals. The collection finally pointing just behind the posterior lip of the urinary fistula, it was opened, when the patient experienced immediate and inexpressible relief, on the discharge of nearly a quart of retained menstrual fluid. The incision has been kept open with sponge tents and uterine bougies, and no symptom of Dysmenorrhœa has appeared since. Precisely the same result has ever followed our operations in *every* case of occluded vagina;

indicating plainly that *obstruction* at other places, than at the uterine orifice, is ever competent to produce all the symptoms of Dysmenorrhœa, and that, on the removal of the obstruction, the function is performed naturally and without pain. A large majority of cases of Dysmenorrhœa attended with engorgement of the neck, owe the pain and distress experienced during menstruation, we are perfectly confident, more to the resulting occlusion of the cervical canal, than to the inflamed condition of the cervix and when benefitted by local applications as cauterization and astringents, the relief is due more to the incidental enlargement of the canal, than directly to the reduction of the inflammation which had been the chief object of treatment.

It is a notorious fact, that women suffering from Dysmenorrhœa, do not bear children. This sterility is generally attributed to the disturbance of the system, consequent upon the *painful periods*. May not the mechanical occlusion be an influential cause in preventing conception? These women do sometimes, as it were, *by accident* conceive; and then, we cannot say from our observation, that they are any more liable to abort, but on the contrary, enjoy more excellent health during gestation, than they ever did before. Then again, as our observation will fully bear out the author, these women, after parturition, never again suffer from the old distressing malady; the distension consequent upon the act having entirely broken up the obstruction upon which the distress chiefly depended.

If then, as would appear from the above considerations, mechanical obstruction at the neck of the womb is a frequent, or even, an occasional cause of painful menstruation, a disease so common, and at the same time, attended with often, both bodily and mental distress, on account of the barrenness it produces, some well-arranged and convenient means of removing it, becomes a great desideratum in practice.

Dr. White's very ingenious Hysterotome is certainly a valuable addition to the armamentaria of the Surgeon and Obstetrician, for it possesses all the advantages of safety, convenience and efficiency, so much to be desired in an instrument of the kind. For his ingenuity and care in bringing it to its present perfection, he certainly deserves the thanks of our profession.]—*Editors Southern Med. and Sur. Journal.*

A New Hysterotome. By OCTAVIUS A. WHITE, M. D., of Charleston, South Carolina.

DYSMENORRHŒA is certainly one of the most painful and intractable disorders we can be called upon to treat. It is of very frequent occurrence, and is the fruitful source of much ill health to females. Commencing, as it has often been known to do, even with menstrual life, it may proceed unchecked throughout successive years, and yield at last, only to

time and the natural cessation of the discharge. If unrelieved, a trifling case is liable to become worse and of longer duration, until finally, the afflicted patient may be only beginning to recover from the shock of one period, when the dreaded approach of the next is near at hand. It is, therefore, not at all improbable, that many unfortunate women have fallen victims to consumption and other terrible maladies, in consequence of these periodical sufferings.

Under such circumstances, the attention of accoucheurs must ever have been directed to its relief. And such, indeed, has been the case, though it is mortifying to reflect, that until a comparatively recent date, the blindest empiricism appeared to direct the treatment. Incorrect views respecting its pathology, inevitably led the way to notable errors in practice, and the wretched applicant for relief, was too often subjected to struggle not only with the original malady itself, but also against the evil effects of injudicious means used to remove it. Thus, at one time, obstetricians erroneously attributed all the phenomena of this disease to plethora, when cups and lancets were indiscriminately applied. At another, debility was the prevailing doctrine, and tonics became the fashion. At another, spasm was obscurely hinted at as the cause, and opium was the only specific. At a still later period, we hear of nothing but its nervous and neuralgic origin; this was the day of active temporising,—main reliance being placed upon inunctions with belladonna, aconite, and the like; whilst, behold, at another, the very identity of the disease called in question, and to ovarian irritation and inflammation, imputed the source and origin of all the manifold suffering that was certainly uterine in its seat.

Such were many of the vague notions which prevailed respecting Dysmenorrhœa, anterior to the year 1823. About this period, Dr. Mackintosh of Edinburgh, first suggested the employment of mechanical means for its relief. Being led to investigate this subject by accident, he forthwith commenced a series of examinations with experiments, which resulted in convincing him that preternatural narrowing of the uterine canal, was most commonly concerned in the production of this complaint. This point being established, he proceeded to account for the alarming symptoms so frequently met with, in the following manner: "The menstrual discharge, after it is secreted in the uterus, cannot readily escape, in consequence of the small size of its orifice; distension of the organ is the result, which, by exciting the contraction of its fibres, produces uneasiness and pain in the pelvic region. When the os uteri is very small and the secretion viscid, or mixed with coagulated blood, shreds of membrane, or organized masses, then the distention becomes more considerable, and stronger contractions are excited. Sometimes the action of the abdominal muscles is called into play, and

bearing down pains are produced, resembling in every particular, the pains of labour, and continue until the expulsion takes place."

These observations, originally entertained and expressed so many years ago by Dr. Mackintosh, have since become generally adopted; and though improvements in the management of these cases are still being made, no one can fail to observe that the doctrines promulgated by that illustrious practitioner, continue to influence surgical opinions and practice even to the present day.

Dysmenorrhœa, therefore, being proved to result most commonly from mechanical causes, surgical remedies for its control have largely superceded the vaunted resources of the pharmacopœia. But though surgical appliances are oftenest available in the management of this disease, we must not lose sight of the fact, that there are also a certain proportion of cases which require constitutional measures alone for their cure. Let me not, therefore, be thought to accord to surgical interference too great supremacy, experience having long since assured me, that by far the largest number are amenable only to a careful and judicious institution of both plans of treatment combined. If, therefore, we adopt one of these modes of relief, and attempt to practice it to the exclusion of the other, we shall too often be baffled in our best directed efforts, and find the disorder liable to return, even after its apparent removal.

The method advocated by Dr. Mackintosh, consists, as will be remembered, of careful and repeated dilatations of the os and cervix uteri, with bougies of various sizes. But the same evil consequences which often eventuate during the management of ordinary urethral stricture, by dilatation, were so liable to arise during this course of treatment here, that surgeons were soon compelled to abandon this procedure and look to measures more expeditious, and against which no such objections could be alledged.

Accordingly, about twenty years after, Prof. Simpson announced to the profession, another mode of treating this obstinate complaint, by an expedient at once novel and brilliant. This was by incisions skillfully made within the cervix uteri, with appropriate instruments, and keeping the parts afterwards dilated with sponge tents until the cure was complete.

In behalf of this safe and simple operation, it is contended that it at once places the parts in somewhat the same condition as subsequent to parturition or a miscarriage. For it is a notable fact, that many cases of otherwise intractable Dysmenorrhœa have been known to abate or cease altogether after one or other of these occurrences have transpired. As to the efficacy of this mode of operating, it would be needless here to recount all the high testimony recently added in its favor. Suffice it to remark the practice has since been adopted by many of the most eminent accoucheurs and surgeons in this country and elsewhere

Promising such certain and expeditious relief as this procedure certainly does, the facility with which the several steps of the operation may be performed, cannot fail to interest surgeons. Already, therefore, have instruments of different construction been suggested, each having in view that important design. That invented by Prof. Simpson, has, thus far, very justly commanded the greatest favor. This, it will be remarked, however, is but a modification of the old *Lithotome Cachè*, which though a contribution of considerable value in its proper place, to the armamenta of Surgery, is certainly liable here to objections which readily suggest themselves to all who attempt its use.

Having been compelled, upon several occasions, to resort to the practice and the instrument of this eminent master, for the relief of obstructive Dysmenorrhœa, the peculiar dangers which embarrass its use, compelled me to lay it aside and employ one invented by myself, of the following description.

Annexed is an engraving, which, though considerably reduced from the original, will assist, I hope, in giving an adequate idea of this instrument. It consists, as will be seen, of a long and delicate staff or stem affixed to a handle of unusual form. The staff is about the calibre, and has somewhat the same curve as a No. 3 small catheter. It is full nine inches in length, and is so plainly notched and numbered off upon its posterior surface, from the point to the handle, that these measurements may easily be distinguished by the touch alone.

At a moderate distance from the point of the instrument, may be noticed two small blades, jutting out from the staff on either side. Each of these blades is capable of being thrust out about a quarter of an inch, or concealed by being withdrawn again within its sheath in the circumference of the staff, by means of a certain manipulation at the handle, which I shall take occasion presently to describe.

The standard depth of the womb from the os to the fundus uteri, has already been ascertained to be just two inches and a half. To render, therefore, the application of this instrument safe, and in order to bring its utility within the range of possible cases of even smaller uterine di-



mensions, a point about an inch and a half from the apex of the stem has been selected, from which the knives are made to protrude when needed.

The projection and closure of these blades is affected with great facility, by means of a female screw, (*a*) which plays upon a thread (*b*), situated at the very butt of the handle. This screw is hexagonal in shape, each side of which is made to bear a number, ranging from one to six. The instrument being closed, No. 1 corresponds exactly to the convex surface of the handle, but progressively, as the succeeding numbers are brought upwards, by turning the screw, the blades are forced out to the extent desired; No. 6, of course, denoting the maximum. The value of this little contrivance will be obvious, it being by this means alone that the operator can learn at a glance, to what degree the blades have been opened or shut, after that portion of the stem which contains them has been introduced, to perform its duty within the uterine orifice.



Fig. 2.

The second figure represents an anterior view of that section of the stem which holds the blades, the upper surface being removed, in order to display the mechanical principles upon which they act. The stem, therefore, is seen to be hollow, and the two blades, lying back to back, are held together, and fastened by means of a single pivot to a small steel wire, which is made to pass quite through the centre of the instrument, from *c* to *b*, fig. 1. When closed, the blades, of course, overlap each other, to economise space, but obedient to the screw, (*a*) they are forced to part, one on each side of the stem, in consequence of the steady resistance opposed to the inclined plane of their backs, in the shape of a wedge.

The handle made of some light material, is intentionally flattened upon its posterior surface, and convex upon its anterior. The convexity of the handle, corresponds to the curvature of the stem, and by referring, therefore, to this distinction, the operator is constantly reminded of the direction of the point of the instrument, even while hid to the handle within the vaginal passage.

To incise the neck of the womb with this instrument, the patient is made to lie upon her back, in a convenient position. The forefinger of the right hand is inserted into the vagina, and its extremity held in contact with the os tincæ, to act as a guide. The blades being closed, the instrument is next held in the left hand, and its point carefully slipped

along the palmer surface of the finger, until it is finally directed, in this manner, through the cavity of the cervix and within the os internum. It is then maintained in this position, until with the right hand, the blades are forced out to the extent desired; when, by simply withdrawing the instrument, in the same direction as introduced, the operation is fully accomplished. To complete the cure, all that remains now to be done is to prevent re-union of the cut surfaces, and this is effected by means of a sponge tent, or a permanent metallic bougie, similar to that recommended by Prof. Simpson. Whichever is selected should be worn within the parts for several days, and only changed as often as cleanliness requires.

My main object in communicating this paper, have been not merely to record my approval of Prof. Simpson's mode of treating certain cases of Dysmenorrhœa by incision, but to introduce to the profession a new surgical instrument for effecting this purpose. I trust that its credit rests not so much upon its originality and comparative cheapness, as upon its especial adaptation to the relief of *all classes of strictures* in which internal cutting would be admissible.

The instrument in my possession is one which was neatly and successfully fabricated at the factory of Mr. George Tiemann, No. 63 Chatham St., New York. The skill of this veteran instrument-maker, is already too well known to need encomium.

In conclusion, I would simply add, that this instrument needs but a single application to effect in these cases, what it requires, at least, two or more attempts with any other to perform. It offers, consequently, an easier, more expeditious, safer, and, upon the whole, less painful mode of operating than any other I know of. I therefore recommend its use to my professional brethren, hoping that it may be found of as much service in their hands as it has so far proved in my own.

AMERICAN MEDICINE IN GREAT BRITAIN.—We are told that an intelligent gentlewoman of England, not long since, was filled with astonishment on beholding some of the inhabitants of the United States, exclaiming—"why their skins are fully as white as ours, and they wear clothes!" We are forcibly reminded of the above, (which we hope is an exaggeration, or the result of a too implicit reliance on the romancings of "Boz in America,") by a very just and most friendly article, in our valued exchange, *The Dublin Medical Press* of July 20th. The able and liberal minded Editor, is, himself, entirely free from the false impressions he is contending against, and magnanimously, in the very midst of a clamor of complaint against him, for quoting American articles into his Journal, dares to raise his voice in vindication of American Practitioners,

American writers, and the much despised American medicine generally.

Many of our readers will smile, while others will blush with indignation, when they learn the *reason* why American Medicine has not, as yet gained a more important position in Great Britain. All will, at least, experience surprise to read, that "The objection commonly made is, that *statements as to matters of fact*, are not to be relied on, when made by contributors to American Journals, in consequence of a habit of exaggeration assumed to be prevalent there." Let them disbelieve—we shall adopt the wiser course of *believing* and *proving*, and "holding on to the good wherever it may be found." We are free to admit that there is a *credulity* which may often, render its subjects liable to imposition, but on the other hand, it is well known, that there is an immuring *scepticism* far more dangerous, which ever blocks up all the avenues to improvement, and binds down its unfortunate possessors, to the narrow bounds of personal experience and immediate observation.

We cannot now enter fully into a consideration of the respective merits of British and American Medical Literature, but we can assure the Editor of the Medical Press, that his generous vindication of American Medicine, is not misplaced, and will be highly appreciated. Time only is required, to convince his confrères that they would consult the interest of their readers, by following his example in placing more reliance on, and quoting more extensively from, the reports of their American brethren.

We here present the article in full :

MEDICINE IN AMERICA.

Occupied by medical politics at this critical period of professional revolution, we have been obliged to postpone the consideration of many topics which should otherwise have been the subject of discussion in our columns, and amongst them one which should have been noticed. We have often been asked, and sometimes not temperately, why we quote and copy so much as we sometimes do from American journals, meaning those of the United States, and to this question we have now to reply, and perhaps after Irish fashion, we may begin by asking another : Why should we not make our brethren here in Ireland, from time to time, acquainted with the progress of professional improvement on the other side of the Atlantic? for it must be admitted, that improvement is taking place in a country so perfectly free to adopt any alteration which experience justifies. Strange to say, the objection commonly made is, that statements as to matters of fact, are not to be relied on when made by contributors to American journals, in consequence of a habit of exaggeration assumed to be prevalent there; an objection, we must say, more discreditable to those who make it than to those to whom it refers. Such an assumption is, as regards American medical literature, alto-

gether without foundation, whatever grounds may exist as to its adoption with reference to literature of a different class, emanating from this quarter, and could have arisen from prejudice only, or misconception, amounting to what may be called vulgar error. To justify the opinion we express, we have only to challenge a comparison between the medical journals of the United States and those of Europe, and to ask any candid man, whether the former exhibit less evidence of veracity than the latter; in fact, we are convinced that there is no foundation whatever, for any such offensive supposition. On the contrary, we believe that even a cursory examination of the American medical periodicals, will at once refute any such error, for we venture to say that they afford at least as much internal evidence of regard for truth, as their European contemporaries. In the United States, the journalist and contributor evidently address themselves to readers, of whose judgment and criticism they entertain respect, while nearer home we find, from the nature of many communications, writers must often consider their readers very deficient in these qualifications. We do not mean to say, that in The States there is no publication of worthless matter, or exaggeration of the importance of communications, but we venture to say that there is less of writing for mere notoriety, or, as it is called, "keeping a man's name before the public," and more of an honest conviction, that the information offered is entitled to consideration. Hence our reliance on the value of this source of professional knowledge, and our occasional use of it for the benefit of our readers; and hence, too, our regret that in consequence of defective postal and agency arrangements, we cannot avail ourselves of it as freely as we wish. That this vast country, with its variety of climate, soil, and cultivation, and its peculiarities resulting from civilization and political condition, must afford illustrations and examples highly important, both to practitioners and conductors of medical institutions cannot be denied, and therefore the advantage of appealing to facts recorded in its annals. Disease assumes characters in these regions, not to be observed in our climate, and the habits of the people have established customs and created institutions, so different from ours, that the consequences cannot be unnoticed by the journalist or neglected by the practitioner. We are at this moment here in Ireland, engaged in warm controversies, as to the nature of the qualification which should entitle a medical man to practise, and as to the conditions under which persons should be allowed to dispense medicines, both of which points seem to be more or less settled in The States, by some means which we cannot well comprehend. The American Physician, as the general practitioner there styles himself, seems to enjoy rights of practice, and liberty to compound and dispense medicines which are denied to the same class in this country, and it may be well to ascertain whether this has been followed by consequences discreditable to the medical profession, or dangerous to the public. This free trade in physic, at the same time, does not appear to lead either by law or practice, to any obstruction disabling the pure physician or surgeon from pursuing his avocations as he does in this country, and so we have here again practical proof that, however it has been done, much of what we are contending for in this country, has been accomplished elsewhere. Believing, then,

that the study of disease may be promoted by observation of its effects on black slaves in South Carolina, as well as on white free men in New England, and that the operation of peculiar laws and customs on medical affairs throughout the Union may prove instructive, we propose to make our readers from time to time, acquainted with what is passing in the western medical world. To fastidious friends at home, and considerate contemporaries abroad, we therefore appeal to enable us to accomplish this object, and we shall be grateful for any assistance afforded us, to carry our views in this respect into effect. In fact, we begin to think that the old medical world is growing older, and that a little transfusion of new blood may give new life; the journals of Europe are full as ever, but their contents remind us more of the garrulity of age than the freshness of youth. At this side of the Atlantic, men are, in fact, so busy praising themselves and endeavoring to prove that little was known until their time, that it may be well to learn how it is at the other, and thus perhaps relieve us from the monotony of books and journals which is, at present, rather oppressive.

[Dr. L. D. Ford of Augusta, has been using chloroform in cases of Delirium Tremens for several years with the best effect. We are surprised at the *strangeness* of the remedy in England.]

DELIRIUM TREMENS.—A case of delirium tremens is recorded: the subject, a stout healthy man, in which laudanum and hyoscyamus having completely failed in moderating the violence of the symptoms, chloroform was administered; in five minutes he fell asleep, and continued sleeping for six hours, when he awoke, and the symptoms of the disease had vanished. (*Ed. of Lancet*, p. 57.)

We apprehend that the *indiscriminate* use of chloroform in delirium tremens would be highly dangerous. If a sly drinker, one who habitually gets nearly drunk, be compelled to leave off his stimulants suddenly, he will probably be attacked with delirium tremens; but in this case the use of chloroform would be hazardous. You have an impoverished vital energy, an exhausted nervine force. Small doses of brandy and constant administration of small quantities of beef-tea are here called for. But where, as in the case mentioned above, the man is not an habitual drunkard and the constitution is good, in fact, if we may use the term, when the disease is more sthenic, chloroform will be found invaluable; opium and brandy injurious.—[*Braithwaite's Retrospect*.]

On Hæmorrhagic Measles. By Dr. OTTO VEIT.—The prevailing view that the hæmorrhagic or petechial form of measles is of a malignant or septic character indicating great danger, is combatted by Dr. Veit upon the strength of the experience which he has derived from the various epidemics that have occurred in Berlin, from 1847 to 1857. After quoting various authors from Huxham downwards, of whom Rilliet and Barthez alone coincide with the views advocated by Dr. Veit, he details his own observations. He met with the petechial form in 11 out of 160 cases; and although 9 of them lived in needy circumstances, they all

passed through the disease without any peculiar disturbance or ill effects. The author does not deny *in toto* the occurrence of a septic form of measles, but is unwilling to admit that the petechiæ in the cases observed by himself were due to decomposition of the blood, but that they must be regarded as a proof of the greater intensity of the *physiological* process in the same way as the catarrhal affection of the respiratory organs may be converted into croup or bronchitis. In the hæmorrhagic form the eruption, after the usual prodromata of fever and catarrh, on the second, third, or fourth day, instead of becoming paler, suddenly assumes a dark-red colour. These spots become still darker on the ensuing days, and even black; they are round or angular, but have a sharply-defined margin; they vary in size from a flea-bite to that of a pea or bean, and more. They do not disappear on pressure, but behave exactly like extravasations. These spots retain their intensity of colour for a day or two, and then pass through the various changes of colour observed in other extravasations, becoming purple, brown, and yellow before they disappear all together. The desquamation of the epidermis is more marked over these spots than elsewhere. Dr. Veit has not met with cases in each epidemic of any intensity; sex appears to exert some influence on the occurrence of the hæmorrhagic form, seven having been males and four females; while of the 160 cases of measles, 80 were males and 78 females, the sex of two children not having been noted. All the epidemics observed by the author had a benignant character, only 3 of his 160 patients having died.—[*Archiv. für Pathologische Anatomie und Physiologie*, and *Brit. and For. Med. Chir. Rev.*

Influence of Hunger on Poisoning.—By the following extract from article xv. of *Virchow's Archiv. Bd. xiv.*, (Hefte 5 and 6,) it is intended to make known some of the results obtained by *Dr. Th. Köhler* of Marburg, who, among other interesting experiments, endeavored to determine the influence of hunger upon the activity of poisons—*i. e.* the difference in the rapidity of their resorption in fed and unfed animals. It appears that hunger retards resorption, and delays the occurrence of poisoning and death, so that the generally prevailing idea that an emaciated, weakened individual must sooner succumb to a dose of poison than a well-fed and strong individual, is evidently incorrect. Köhler explains that the rapidity of resorption bears the necessary relation of effect to cause to the number of respirations and the corresponding frequency of pulse. Abstinence of nutriment diminishes the absorption of oxygen pretty steadily till death, corresponding to which the quantity of excreted carbonic acid becomes less. During hunger, the blood, therefore, cannot circulate with the usual velocity, and poisonous substances that must, directly or indirectly, be incorporated with the current, are carried along less rapidly and consequently reach the central parts of the nervous system later than when the usual food has been taken. This action must necessarily also, therefore, occur later. The earlier occurrence of death in well fed animals is also thus explained. Circulation on which all processes depend being influenced by respiration, and the state of the nervous system, becomes more rapid when the muscles are violently contracted, and nourished animals distinguish them-

selves generally from the unfed by their much more forcible and violent muscular action, thus hasten their own destruction.—[*Med. and Surg. Reporter.*

On the Treatment of Croup. By M. MALGAIGNE.—In a letter addressed to the Academy of Medicine, *à propos* of a long discussion on the treatment of croup, M. Malgaigne complains of the erroneous manner in which his doctrines as to the employment of tracheotomy in this disease have been represented, and sums up the views he entertains thus: he regards the operation as a sad but imperative duty, justified only by the absence of all other chance for the patient, and he distinctly opposes the doctrine of M. Trousseau, who inculcates that the operation should be had recourse to as soon as false membranes make their appearance in the larynx. M. Malgaigne considers that the time for the surgeon to interfere is when the physician states himself to be unable to do anything more. [*L'Union Médicale*, and *Ibid.*

Translation of Medical Works into the Chinese Language.—Some of the standard medical authorities have recently been translated into the Chinese language by Dr. Hobson. They include works on the following subjects: Philosophy and General Anatomy, Surgery, Diseases of Women and Children, Medicine and Materia Medica, and on General Science. Some of these works have created great interest in them and have been republished by Chinese Mandarins, and widely circulated over China and Japan. The medical works of the Chinese show them to be totally ignorant of medicine as a science. Anatomy has never been studied, and they do not comprehend the circulation nor the functions of the viscera. It is believed that this series of treatises will spread much useful information among their practitioners, and induce attention to medical science. [*Med. and Surg. Reporter.*

Light the only cause of Purulent Ophthalmia of Infants.—Mr. Ballard has written an original paper upon the above subject. The generally received opinion that the disease is the result of contact with vaginal secretions is disputed,—1st, because the disease does not appear until several days after birth; 2d, extreme cases of leucorrhœa and yet no ophthalmia if the room was kept dark; 3d, no leucorrhœa and yet ophthalmia, the room being kept light.

The proofs in favor of light being the cause of the disease are, 1st. Expose an infant to bright light, and you can prognosticate the occurrence of the disease. 2d. It never prevails if the child is kept in the dark. 3d. That many cases had been cured by obscurity only.

London Lancet.

Prof. E. R. PEASLEE has been transferred to the Chair of Obstetrics and Diseases of Women in the New York Medical College, made vacant by the resignation of Dr. B. F. Barker, and Prof. Austin Flint, Jr., late of Buffalo, has been appointed to the Chair of Physiology and Microscopy. Dr. Flint holds the same chair in the Buffalo Medical College.

[*Med. and Surg. Reporter.*

SOUTHERN MEDICAL AND SURGICAL JOURNAL.

(NEW SERIES.)

Vol. XV.]

AUGUSTA, GEORGIA, OCTOBER, 1859.

[No. 10.]

ORIGINAL AND ECLECTIC.

ARTICLE XXII.

Aneurism of the Ischiatic Artery—Ligature of this Vessel, and subsequently of the Primitive Iliac Artery; with remarks, by L. A. DUGAS, M. D., Professor of Surgery in the Medical College of Georgia. (Read before the Medical Society of the State of Georgia, at its meeting in April, and ordered to be printed.)

ANEURISMAL affections of the breech or gluteal region are so rare, and their consequences so serious, that it becomes a duty to place upon record such cases as we may see, together with the result of the plan of treatment adopted, whether favorable or otherwise. Were failures in the management of surgical or other diseases, as freely published as successes, our means for estimating the relative merit of different procedures, would be greatly improved.

Although the branches of the internal iliac artery which pass out of the pelvis, may become aneurismal without having suffered any traumatic lesion, such cases are rather exceptional, and the aneurism may in general be traced to some mechanical injury. Of the small number of aneurisms of this region referred to in systematic works, the majority implicate the gluteal artery; so that there are very few well defined instances of aneurism of the ischiatic artery. Professor Bouisson, of Mont-

pelier, is the first who has dwelt at any length upon these affections, and his memoir published in the *Gazette Médicale de Paris*, for March, 1845, contains a better account of them than can be found elsewhere. An abstract of this interesting contribution, is contained in the first volume of Vidal's "*Pathologie Externe*," and has also been incorporated in the American translation of Velpeau's *Operative Surgery*.

The symptomatology of these aneurisms does not differ materially from that of similar affections in other parts of the body, and their diagnosis, although sometimes obscure, may usually be made out with sufficient accuracy by careful examination. Yet it is alleged, that "an eminent surgeon of London, Mr. Guthrie, tied the primitive iliac in a patient who was supposed to have gluteal aneurism; but in whom death, which took place eight months after, disclosed the fact, that it was an encephaloid tumor." It is also stated, that a Parisian surgeon of large experience, mistook an aneurism of this kind for an abscess, and punctured it. But it is much less difficult to diagnosticate the mere existence of an aneurism of this region, than to determine positively whether it be located in the gluteal or in the ischiatic artery.

In a chapter upon Aneurisms, inserted by Dr. Mott, in the translation of Velpeau's *Surgery*, he says: "when an aneurism exists in the *gluteal region*, we believe it utterly impossible for any surgeon to say whether the disease is seated in the gluteal or ischiatic artery. These arteries emerge from the pelvis so near together, that, *a priori*, the identification of an aneurism in one or the other is totally impossible." (Op. cit. vol. 2, p 298, 1st ed.) The cases of which I am about to give an account, establish conclusively that our distinguished countryman has been rather hasty in the expression of his views so dogmatically. In these cases, I think it will be conceded that there could have been no doubt as to which artery was the seat of disease, even before its ligation made the demonstration complete.

Several methods of treatment have been proposed and practised, in the treatment of aneurisms of the gluteal region. In recent wounds opening the gluteal or ischiatic arteries, there can be no doubt as to the propriety of acting upon the general

principles which govern us with regard to wounds of arteries in other localities; that is to say, of cutting down to the vessel and placing ligatures above and below the point injured. This is advised even by the authority just quoted, notwithstanding his manifest aversion to the ligature of these vessels under any other circumstances.

In cases of a different character, other means have been used. Systematic compression has failed to give more than temporary relief, and surgeons are divided as to the point at which the ligature should be placed *within* the pelvis; some advocating its application to the internal iliac, and others preferring to take up the common or primitive trunk. Bouisson urges the ligation of the affected vessel *at its emergence from the pelvis*, as more easily performed and less dangerous. Whether this will be found more effectual, remains to be seen. It is unquestionably easier to place a ligature upon the ischiatic artery outside of the pelvis, than upon the internal iliac; but by so doing, we operate nearer the seat of disease, where the coats of the artery are more apt to be in a pathological condition, and are consequently more liable to be attended with secondary hemorrhage. On the other hand, the internal iliac is very difficult to reach, and its numerous branches are apt to prevent its occlusion for a sufficient length to obviate the dangers of secondary hemorrhage. Again, when we reflect upon the free anastomoses of the branches of the internal iliac with vessels derived from the external iliac, or rather from the crural artery, we are led to doubt the efficacy of ligatures placed upon any portion of the internal iliac, or of its subdivisions. It would seem that the only hope for success must be found in the possibility that by retarding the *force* of the circulation in the aneurism, coagulation may be induced within it. I must confess that such were my expectations when I performed the operation I am about to relate. Of the seven cases recorded in which the internal iliac was tied for aneurisms of the breech, four terminated favorably and three fatally. (Mott's Velpeau.)

As Prof. Bouisson's method of reaching the gluteal and the ischiatic arteries, for the purpose of ligating them, appears to me the best, I may be permitted here to translate it, from his essay.

"The surgeon should recollect that the gluteal artery emerges from the pelvis, at the highest point of the sciatic notch, eleven centimetres from the anterior superior spinous process of the ilium, six centimetres from the posterior superior spinous process of the ilium, and ten centimetres from the most elevated point of the crest of the ilium. Having made the patient lie with his back up, and ascertained by an examination of these points, the precise seat of the gluteal artery, the surgeon should make a transverse incision six or seven centimetres in length, the middle of which should correspond with the point of emergence of the vessel. This incision is carried through the skin, cellular tissue and gluteus maximus, and exposes the aponeurosis in a line tangent with the curve of the sciatic notch. The sides of the wound will immediately retract, and the aponeurosis may then be cut upon a grooved director carried between it and the artery, which may be felt pulsating beneath the edge of the sciatic notch.

"With a grooved director moderately bent, and having an eye near the end with a ligature passed through it, he should carefully isolate the bundle of vessels from the cellular tissue, in which they are imbedded, push aside the vein or veins as the case may require, as well as the nerve on the inner margin, and hook up the artery just below the bony edge of the sciatic notch. It is important to carry the end of the director deeply enough to be sure of elevating the arterial trunk itself, otherwise a mere branch of the vessel might be mistaken for it. These steps in the operation are materially facilitated by the natural retraction and separation of the sides of the wound, as well as by the direction of the incision. The threaded director may readily be carried without difficulty in this transverse wound; whereas, when it is made parallel with the fibres of the gluteus maximus, as advised by H. Harrison, it is not without some trouble that the artery can be elevated by the grooved director, or by Deschamp's needle.

"The remainder of the operation presents nothing peculiar; the vessel is tied in the usual way; and union by the first or by the second intention will be sought according to circumstances.

"*Ligature of the Ischiatic Artery.*—We know of no instance in

which this artery has been ligated in the living, although cases have occurred which might have rendered this necessary, as hemorrhages and aneurisms. The possibility of ligating this vessel is admitted, and it is acknowledged to be less difficult than a similar operation upon the gluteal artery.

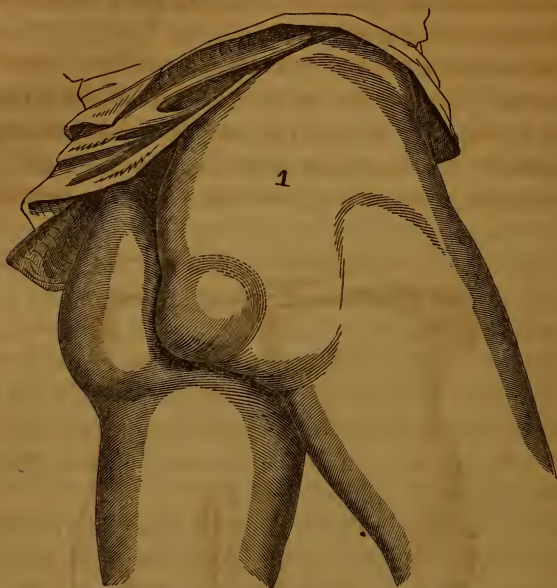
"We have repeatedly tied the ischiatic artery without difficulty in the dead subject by means of a transverse incision as in the preceding case. The ischiatic artery emerges from beneath the pyriform muscle, exactly at the centre of a line drawn from the posterior superior spinous process of the ilium to the tuberosity of the ischium. A transverse incision of six centimetres in length, should pass over the point just indicated, and penetrate through the skin, cellular tissue and gluteus maximus. The artery is found on the inside of the sciatic nerve, with the vein on its posterior and internal aspect. The vessel is to be isolated and elevated with a threaded grooved director, care being taken to avoid including the vein in the ligature, and the operation is to be completed as in ordinary cases.

"A similar incision would answer for tying the internal pudic which lies a few millimetres from the inner side of the ischiatic."—(*Gazette Médicale de Paris*, March, 1845, p. 200.)

I will now present the history of a case which came under my charge in 1857, as taken from my note-book.

Wesley M. Johnson, of Gilmer Co., Georgia, aged twenty-four years, directed to me by my friends Drs. Setze and Connel, of Marietta, placed himself under my care in March, 1857. He states that when four years old, he fell from a tree and struck with his seat upon a rocky surface; but has no recollection of any contusion or injury to the part at that time. He was told that he was so badly stunned, that he was carried home insensible. About five years after this, he first felt a little tumor in the region of the tuberosity of the ischium, which has been steadily increasing ever since. He does not know when it began to pulsate, but thinks it has done so for several years. About a year ago a "Cancer Doctor" said, "he could cure him with plasters that would eat out the tumor." A plaster was accordingly applied, which gave him such intense pain, and caused so much inflammation and tumefaction, that he refused to have it repeated.

His condition when I examined him was noted as follows :
[see Fig. 1.] General health apparently very good ; has a tumor



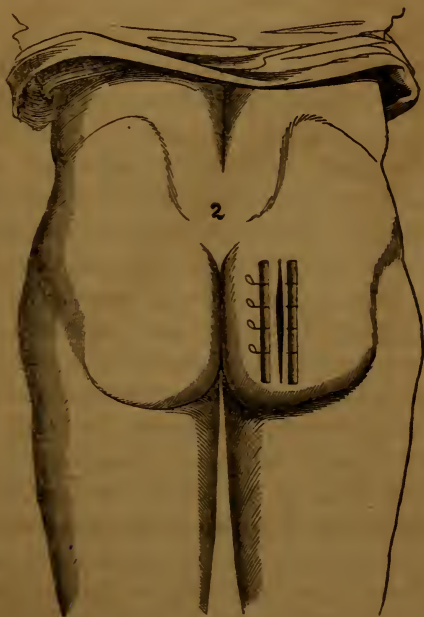
as large as a goose's egg upon the inner cheek of the nates, near the tuberosity of the ischium, and extending upward and inward in the direction of the well known course of the ischiatic artery. It is easy to grasp the whole tumor in the hand, and no distinct neck can be felt extending up beneath the gluteus maximus.

Its lower extremity protrudes about two inches beyond the general surface, is somewhat conical, soft to the touch, and feels as though there was no more than the thickness of the skin between its contents and the finger. The skin is also here of a red or dark hue, not unlike that presented by an acute abscess on the point of bursting. The tumor evidently contains a fluid which may be forced out of it by pressure, and which returns immediately when this is discontinued, the current of egress and of ingress being distinctly felt by the finger. The tumor pulsates visibly to the eye and sensibly to the hand ; a distinct aneurismal thrill or whiz, with beats synchronous with the action of the heart, may be easily detected with the naked ear or with the stethoscope over the entire tumor, and *along the course of the*

ischiatric artery up to the sciatic notch, where it is most audible. Firm pressure upon the seat of the ischiatic artery at its exit from the pelvis, arrests both the pulsation and the whiz, and these return when the pressure is omitted.

The tumor never gives him any pain, except when he rides on horse-back, or sits long upon it. It then feels heavy and sore. It is evidently an aneurism of the *ischiatric artery*, probably induced by the traumatic cause above mentioned.

The following operation [see Fig. 2,] was performed on



Monday, the 16th of March, in presence of a number of physicians and students: concentrated chloric ether was inhaled to intoxication, but not to coma; an incision five inches long was made in the middle of a line drawn from the posterior superior spinous process of the ilium, to the tuberosity of the ischium, and carried through the gluteus maximus which was unusually thick; ligated one small artery; exposed the inferior margin of the pyriformis, and found the ischiatic artery beating strongly and with a distinct thrill to the finger. When this was compressed, the pulsation in the tumor ceased, but would return upon removing the pressure. The vessel was now ligated with silk

and the tumor ceased to pulsate and became pale and flabby. The edges of the wound were brought together with quill sutures, and a firm compressing bandage applied to the tumor. Two hours after the operation, a freezing mixture of ice and salt was applied for ten minutes to the tumor, over the bandage, and 40 drops tr. opii. administered.

17th March. Passed a bad night in consequence of febrile excitement and confined position; is still feverish and feels "sore all over;" no pulsation nor whiz in the tumor. Re-applied freezing mixture to tumor.

18th. More comfortable; no febrile excitement.

19th. Very comfortable; no pain; no pulsation in the tumor; removed the bandages and found that the tumor resumed partially its former fullness, but no pulse nor thrill detected by applying the ear. Some sanious pus discharged from wound upon pressure; did not disturb the sutures, but re-applied the compressing bandage. Bowels to be kept quiet with opiates.

20th. Feels very well; compresses got off during the night; the ligature upon the muscular branch came away; slight pulsation and sound detected in the tumor; compresses re-applied.

22d. Has had hemorrhage from the nose to-day; pulsation still perceptible slightly; adhesion of wound nearly complete, but suspecting pus beneath, I removed the quill sutures and found suppuration pretty free from deep-seated parts.

24th. This morning at 8 o'clock, the patient got out of bed, and on seating himself for an alvine evacuation, felt something suddenly "give way," and was immediately deluged with blood flowing from the wound. He was at once assisted to the bed and placed upon his abdomen, while pressure was exerted upon the wound. The bleeding ceased at once. On reaching him, about half an hour after the accident, and removing the dressing, no blood issued; the wound did not gape open, nor could I see from what point the blood escaped, although the quantity lost was estimated by his room-mates at from a pint to a quart. The ligature still in place, with the projecting end covered with adhesive plaster. Tumor still pulsates feebly. Covered the wound with a thick compress, firmly bound down by a many-tailed bandage carried around the pelvis. Bled again from the nose to-day, showing the hemorrhagic diathesis.

25th. At 4 o'clock P. M., the wound bled a little. I removed the dressing, but no blood issued. Re-applied compresses.

26th. Finding early in the morning that blood had been oozing from the wound all night, I invited several professional friends to meet me at 9 o'clock A. M., when, on removing the dressings, the blood gushed out in a torrent. I at once tore asunder the adherent surfaces, washed out the wound with a solution of sulphate of zinc, and brought the ischiatic artery fairly into view. The blood flowed from just above the seat of ligature. Bits of lint were applied to the bleeding point, and the wound well packed with them after the manner suggested by Dr. Mott, so as effectually to arrest the hemorrhage. The patient being very much exhausted, was then turned upon the back, and brandy given him. In consultation with the physicians present, it was determined to proceed at once to take up the common iliac artery. Being indisposed at the time, I requested my friend Dr. Wm. J. Holt, late Surgeon in the Crimean war, to perform the operation, which he did. The patient's feeble state deterred us from using any anæsthetic. He was on the verge of syncope during the whole time of the operation, and vomited several times before its completion, although he lost no blood. The peritoneum was wounded in consequence of his movements. The artery having been tied, the wound was closed by quill sutures; compresses dipped in cold water applied over the abdomen and ordered to be kept cool; brandy and laudanum was administered; and the patient allowed to rest.

27th. Passed a comfortless night; took one gr. opium every five or six hours, with a sufficient quantity of brandy; but gulped up continually whatever he took of broth or other drink; pulse bad; temperature of limb normal; no hemorrhage; some tenderness of abdomen; ordered opium pills, toddy, broth, iced water, and cold cloths to the abdomen to be continued.

28th. Evidently sinking; pulse feeble and frequent; still gulps up every thing; limb warm; feels relieved of all soreness and thinks himself better.

29th. Died at 4 o'clock A. M. No post-mortem examination made.

Since these notes were taken, I have found only one case of the kind, and it resembles my own so closely, that I cannot re-

frain from appending it to this report, in the author's own words. It is contained in the *Revue-Clinique*, published in Paris in 1850, under the following caption :

"*Aneurism of the Ischiatic Artery—Ligation of this Artery.* By M. C. SAPPEY, Agrégé of the Faculty of Medicine of Paris.

"PAUL DUDIRE, mechanic, about fifty-five years of age, and of good constitution, says that when twelve years of age, he fell upon the left breech. Moderate pain and little inconvenience in walking, were all that followed the accident at first; but fifteen days later, the patient discovered a tumor about the size of a small nut, below and internally to the painful region. The tumor, perfectly indolent, round and without pulsation, remained so for ten years, without increase. After this, the tumor grew gradually, and during the interval between twenty-two and twenty-five years, it attained the size of a hen's egg; during this period of growth, pulsation developed itself by degrees. At twenty-five years the pulsations were very distinct; "very often," says the patient, "I amused myself by feeling them." Notwithstanding its progress, it remained indolent; and if at times it gave pain, it was because the sitting posture had been too much prolonged.

"Ten years more passed without the tumor making any progress, or presenting any other phenomena; the patient continued to walk as before and to work at his trade without difficulty. At thirty-five years of age, on the 27th of August, 1829, after being seated for a very long time, he felt a sharp and sudden pain in the left breech; the next day the tumor was found to have doubled in size, and to be about as large as a fist. He presented himself at the hospital of la Pitié, and was admitted into the wards of Prof. Laugier, whose duties devolved upon me during the months of September and October. After having obtained the above history, I made a careful examination of the tumor.

"It was situated upon the inferior border of the gluteus maximus, on a level with the tuberosity of the ischium, thus rendering the sitting posture uncomfortable.*

"Its volume, which was a little less than the fist, could be

* Yet as the tumor was easily pressed to one side, he could, by so doing, be seated for some length of time without pain.

partially reduced by a gradual compression. The integuments over it were red, painful and analogous to those covering a phlegmonous abscess. The fingers applied to the surface, detected fluctuation, and consequently the existence of a liquid, which might have led to the belief that it was an acute abscess, had not the examination revealed at the same time another important phenomenon, the existence of pulsations synchronous to those of the arteries.

"These pulsations existed not only at the surface of the tumor, but also over the whole course of the ischiatic artery. By compressing this vessel immediately below the pyramidalis muscle, all pulsation ceased in the tumor, but returned as soon as the pressure was removed.

"By means of the stethoscope, applied immediately to the tumor, or along the course of the ischiatic artery, an intermittent blowing sound, synchronous with the contractions of the ventricles, was detected.

"All the phenomena clearly indicated the nature of the disease; it was an aneurism and this aneurism had its origin in the ischiatic artery. The latter point of diagnosis might alone be subject to doubt, yet the seat of the tumor on a level with the tuberosity of the ischium, its pulsations extending along the whole course of the ischiatic and being suspended and reproduced alternately as this artery was compressed, or not, appeared to me to offer such unequivocal signs that I could not hesitate in determining, which vessel was aneurismal.

"As this aneurism rested upon the tuberosity of the ischium, and involved an artery of the fourth class, I thought at first of treating it by compression. With this view, I used the spica bandage firmly applied, and in order to make this more effectual, I modified it by carrying the upper half of the figure of eight over the right shoulder, instead of around the abdomen. This reduced the size of the tumor but the pulsations persisted, and at the end of a fortnight no farther improvement being perceptible, I suggested to the patient the more decisive measure of ligating the aneurismal trunk which was done on the 21st September.

"In order to make the ligature, the patient lying upon the abdomen was subjected to the influence of chloroform, and I made

an incision fourteen centimetres in length, parallel with the median line, and at equal distances from the trochanter major and the tuberosity of the ischium over the course of the ischiatic artery. This incision extended successively through the skin, the subcutaneous cellular and adipose tissues, and the lower two-thirds of the gluteus maximus, dividing nine or ten muscular arteries, which had to be tied. Beneath the gluteus maximus, the ischiatic artery was detected by the finger, which was a great help to me inasmuch as the blood oozed abundantly from the whole surface of the wound, and concealed the parts from my eye notwithstanding the free use of the sponge. The artery was tortuous and scarcely larger than usual. A grooved director being passed beneath the lower edge of the muscle, parallel with its course, I exposed the vessel so as to be able to compress it between the thumb and index finger of the left hand. This compression immediately suspended the pulsations in the tumor, which returned as the compression was omitted. This experiment repeated several times with like results, effectually removed every doubt that might have been entertained as to the real vessel implicated. I then denuded the ischiatic artery and applied to it a silk ligature which suspended all pulsations.

"In order to unite this long and deep wound, I resorted to the quill sutures, which could alone approximate the edges in their entire thickness. Four stitches at equal distances sufficed. A single dressing was applied, retained by means of the spica bandage, and the patient put to bed.

"The night following the operation, the patient had a pretty smart fever; was restless, slept but little, perspired freely, but suffered very little pain. The next day the pulse was not so strong and less frequent. I deemed it prudent to leave the dressing undisturbed. On the second day, I proceeded to remove the dressing. The pulsations had not returned, the aneurism was notably diminished in size, and the wound seemed disposed to heal by the first intention. On the third day, I regretted to find that the tumor was the seat of feeble pulsations, and in order to prevent their return, I added to the force of compression. The lips of the wound had healed by the first intention, except at the outlet of the ligatures from which some

pus issued. On the fourth and subsequent days, notwithstanding the strong compression made upon the tumor, its pulsations became more and more decided and union by the first intention complete. All the threads came away except that upon the aneurismal artery, which remained until the eleventh day, at which time cicatrization was nearly complete, but the tumor still pulsated, though with less force, and is not so large as it was before the operation. Compression was continued until the 22d October, but without success. I then abandoned it, and dreading the progress that this aneurism would unquestionably make if left to itself, I thought of treating it by the old method, that is to say by opening the sac. I communicated this to the patient, who seemed at first disposed to consent, but business calling him into the country he left Paris and did not return to the hospital. Two months after he left I saw him, and learned from him that the tumor was in the same state, that it gave him neither pain nor inconvenience, and that he would defer any farther operation.

Remarks.—No instance of the ligature of the ischiatic artery for an aneurism of this vessel, has so far as I know, been recorded. Experience has therefore furnished us no indications for the treatment of such a case. On considering the two methods, that of Anel's ligature and that of opening the sac, I gave the preference to the former, in accordance with the general opinion which is in favor of ligating the internal iliac for aneurism of the breech, but this opinion, although perhaps correct, with regard to aneurisms of the gluteal artery, now appears to me altogether erroneous, with regard to those of the ischiatic. For in as much as the gluteal artery anastomoses with other vessels of the same class only by capillary ramifications, we may very well suppose that by obliterating its trunk, the blood will coagulate in the aneurism and thus effect a cure; but the ischiatic artery communicates with several branches of the femoral, and particularly with the internal circumflex and the first perforating artery by large vessels. In ligating this, therefore, we should not expect to arrest the ingress of blood in the tumor; we can only lessen the force of the current within it, but this will gradually increase until it becomes as great as ever, and thus render the operation unavailing. The reasons in favor of

the method of Anel, although perfectly applicable to the gluteal artery, are little or not at all so to the ischiatic artery. In order to ligate this artery by the method of Anel, we have to make an extensive and deep wound. Is it not more simple at once to lay open the sac? We need not apprehend here a great effusion of blood, as the vessel is small. The incision need not be more extensive, but would rather be smaller. The danger of this method would not be greater, and theory indicates that this operation will be more effectual.

“*Conclusion.*—In aneurisms of the ischiatic artery, we should prefer opening the sack to operating by the method of Anel.”

We have already stated that authorities differ with regard to the point at which the vessel should be ligated in aneurisms of the breech; some advocating the ligature *within* the pelvis, and others preferring to place it upon the vessel *outside* of this cavity. Within the pelvis we may tie either the *primitive* or the *internal* iliac; externally, the affected vessel may be reached through the aneurismal sac, or be tied above this, as advocated by Bouisson. In cases in which it is optional with the surgeon to operate, either within or without the pelvis, it would be difficult to understand why he should prefer the former locality. There can assuredly be no comparison as to the relative difficulty and danger of the two methods of treatment. And yet we find the greatest discrepancy on this question between the highest French and American authorities. Velpeau thus expresses himself:

“If the obliteration of the hypogastric artery has the advantage of curing irrespectively all aneurisms of the breech, whatever may be the artery wounded, its manipulation is, in fact, so fearful, that we should be fortunate were we enabled to substitute for it the ligature upon the diseased artery itself. Now this appears to me practicable where we are treating a diffused or a circumscribed aneurism, or a traumatic, or a spontaneous aneurism, so often as the diseased portion of the artery is in the breech. In fact, the gluteal artery on leaving the pelvis, lies naked upon the anterior and superior border of the great ischiatic notch, so that were we obliged to open the tumor before reaching the origin (racine) of the vessel, it would still be a thousand

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times preferable to the ligature upon the internal iliac artery. There it would be easy to compress it and to cauterize it, and close it with the end of the finger. Nothing would prevent us at first from introducing a conical gum-elastic bougie into the wounded artery, to arrest the blood and raise up the vessel until we should pass a ligature around it."

Dr. Mott thus summarily disposes of the subject :

"Those persons who have suggested the practicability of tying the trunk of either of those arteries on the cardiac principle, *can never have seen an aneurism in this situation.* Like many other great operators upon paper, they have formed their ideas in favor of, or against, an operation, merely by the dissection of the dead body. These are generally the most vindictive and censorious critics, and the most ignorant and dangerous surgeons. It must always be recollected that they predicate their conclusions as to the practicability of surgical operations on the living body, by the beautiful delineations of normal structure. Those who choose to retrograde to the ancient practice of opening the aneurismal sac by an incision *a foot or two long*, and reach for the artery *at arm's length*, in the midst of a *gallon or two of coagulated blood and the gushing and roaring of the vital torrent*, are at liberty to do so if they please.

"For our part, we prefer the more genteel method of tying the primitive trunk itself within the pelvis. It is only in all recent wounds of the region of the trunk of the gluteal or ischiatic arteries, that we should use all commendable industry and care in endeavoring to secure and tie the bleeding vessel, or to command the hemorrhage by the mode we have already pointed out, with small pieces of sponge and pressure."

With due deference to the very distinguished author, we must regard John Bell's celebrated case, to which the italicized allusion refers, as a striking illustration of the advantage of the external operation even under the most unpromising circumstances. His example has moreover been followed by many others since, and with very general success.

With the lights before me, I think the question narrowed down to the two modes of reaching the artery after its emergence from the pelvis. In all cases of aneurism of the breech, whether of the gluteal or the ischiatic artery, consequent upon a me-

chanical injury, recent or remote, I would prefer to lay open the sac in order to apply a ligature *above* and *below* the seat of injury, and thus to obviate the difficulty consequent upon the free anastomoses of these vessels. If I had to treat another case similar to the one I have just reported, I would not hesitate to adopt this method. In aneurisms of spontaneous development only, if they ever occur in this region, would I place the ligature above the sac. In the event of a failure of the operation outside the pelvis, we would still have in reserve a resort to the ligature within it.

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ARTICLE XXIII.

*Cases of Placenta Prævia and Uterine Hemorrhage, with Remarks.*

By C. C. HOWARD, M. D., of Lowndesboro', Alabama.

THE placenta, from its unusual location, retention or any abnormal condition, has characterized very few cases coming under my observation, in an experience of nearly twenty years. But last year, several such cases occurred in my practice, and a report of some of them, with an occasional remark, may be acceptable to the reader.

April 14, (10 o'clock P. M.). I visited a negress aged twenty-eight years, form and size good—had borne two or three children. She was taken with occasional uterine pains, accompanied by hemorrhage, about 3 o'clock, P. M., while in the field; but she continued at work one or two hours, and was then taken to the house on a mule, somewhat enfeebled. Regarded as being in labor, she was entrusted to the care of an old negress, until the prostration became alarming, when I was called. I found her with a frequent pulse, often imperceptible at the wrist; extreme restlessness; thirst insatiable; tongue blanched and cool, and very slight hemorrhage. The os uteri, I then thought too imperfectly dilated to introduce the hand, but by the finger, readily detected a large, soft, fleshy mass, occupying it. Occasional uterine contractions. This woman had had a hemorrhage four months previously. This was the first case of "placenta prævia" I had seen.



Gave opiates—applied cloths wrung out of cold water, and vinegar, &c., and in two or three hours, with very little more hemorrhage, saw the woman die, undelivered. A post mortem examination fully revealed the placental presentation, with the breech second position.

If I had another such case, I think I would deliver in ten minutes. I know I would try. It is fair to add, that this is the only fatal case of hemorrhage I have ever seen.

June 1st. Called to see Lucy, aged thirty-five years—had borne many children. When I arrived, the placenta and body of dead foetus had just been expelled; and in one or two minutes, the shoulders and head were delivered—no hemorrhage, and none previously. The child had died but a few days before, as I had observed its movements very distinctly, less than a week previously. I had seen this woman, on account of a remittent fever, several times in the few weeks preceding her delivery: she was thin, and without any difficulty I could define the head, carry the arm of the child up towards it, and felt thoroughly satisfied as to its position in utero, which was confirmed in the birth. Indeed, the tactility was as great as I should expect ever to find it, in a case of extreme pregnancy. The owner of the woman was informed of the nature of the case, and it was anticipated with anxiety. But nature did her work promptly and well.

August 12th. Mrs. —, aged thirty-five—had borne many children—was in premature labor—breech presentation—placenta partially over os uteri. Delivery of a living child at about six months, was accomplished without aid in two hours. Placenta promptly following. No hemorrhage during labor or for several days before. This lady had repeated hemorrhage within the last three months previous to the confinement—though for two weeks before, appeared to be doing well. So threatening, however, had the hemorrhage been on some occasions, that I gave, without any perceptible effect, ergot, to provoke the expulsion.

Neither from observation, or reflection, or at all, am I inclined to receive the explanation given in some of the books, of the cause of the more frequent occurrence of hemorrhage in the last two months of pregnancy in cases of placenta prævia—i. e.,

the relative expansion of the cervix uteri and growth of placenta. Indeed, I have not so observed it; but even if it be the fact, yet I doubt not the placenta grows proportionately with the uterine expansion. Is not the absence of a support at the os uteri more probably the cause?—the placenta laying over a foramen. True, uterine contractions will effect detachments; but I speak of hemorrhage without such contractions.

Sept. 26th. Called to see a negress, aged 30—borne several children. Found that she had three hours previous to my arrival, been delivered of a dead foetus; and was shown foetus and placenta in the relation they were expelled, as a reliable old negress stated. The placenta was on and around the left shoulder. Two thirds of the mass had evidently been very much compressed, and I doubted not that this had been done by the head in its passage, and the shoulder following, had brought it with it. No hemorrhage during the labor, or for months previous. But in the first few months of this pregnancy, I had repeatedly prescribed on account of hemorrhage. Suspecting the nature of the case, and by my advice, her owner, who resides in this village, brought her here to have her nearer at hand; but getting weary of her, sent her back to his plantation. Another peculiarity of this case, consisted in the insertion of the cord into the chorion, nearly equidistant from the placenta. The vessels of the cord bifurcated several times before reaching the placental mass. I have never observed this distribution of the cord, but once besides the above, and that was on the fourth day of same month.

Arriving at the bedside of a negress who had near an hour previously, been delivered of a dead child, and seeing no cause for its death; and finding that in pulling on the cord in removing the placenta, the membranes followed the cord, I examined it enough to induce me to take it home—when, with Drs. D. and G., found the insertion in the chorion, nearly equidistant from the placenta. There was but one artery. It did not bifurcate before reaching the placenta; but the vein did once or twice. The perforations of the membranes by the foetus was at considerable distance from the placenta, though the vessels did not appear to be injured from that cause. In the other case, some of the vessels were thus lacerated. In this case I doubted not that the death of the child was owing to the com-

pression of the vessels; for their relation must have been equivalent to a presentation of the cord.

Here I desire to dissent from those who consider the perforation in the membranes made by the foetus, as any reliable index whatever to the distance the placenta was placed from the os uteri. For it is evident that the point of perforation will depend very much upon the period in the labor, at which the membranes are ruptured.

November. Called in consultation to see Mrs. ———, aged about twenty-six—good form and size—had borne two children. She was thought to be within a few weeks of her full time, had had hemorrhage some days previously, and at different times. But little weakened however, by loss of blood. We gave opiates, astringents, &c., and thus the case progressed two or three days. Finally the hemorrhage became alarming from its continuance, amount and effect. The pulse preternaturally frequent and feeble—surface cool and blanched—sighing—and it became evident that delivery must be accomplished speedily. Passed the right hand up, on the left side of the uterus, by the placenta—ruptured the membranes—seized a foot, the breech being in apposition with the placenta, brought it down, and without any increase of hemorrhage whatever, accomplished delivery in twenty or thirty minutes. In such a case as this last was, the position of the child might be fully ascertained before rupturing the membranes.

From what I have seen or know of placenta prævia, I would not entertain the thought of passing the hand *through* the placenta. I would prefer, as in the above case, to pass up by it—deliver the child, and then the placenta. But in central cases, or those in which the hand had been passed on that side on which the placenta chiefly lay, I can conceive that the delivery of the *placenta first*, would be unavoidable. Still my effort should be to secure the promptest expulsion of the child.

It will be observed in four of these cases, the breech was in apposition with the placenta. Did the location of the placenta contribute in determining the position of the foetus?

Medical men do not snatch their patients out of the jaws of death, as frequently as many persons suppose, "by upwards of a good deal." Yet I fear I have lost cases when others could



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have saved them; for no medical man should raise for himself a lower standard than the accomplishment of the best that *could* be done. And if he be an idler, let him not soothe his conscience with the "flattering emotion" that *he* has done the best which *he* could do, under the existing circumstances. But while I do not reflect upon the first case reported, with much complacency, this last elevates our noble profession in my estimation. And as we cannot tell when such cases may fall into our hands, I trust this report will, at least, induce the reader whether long or recently in the profession, to propound to his mind and conscience the question of preparation for them.

ARTICLE XXIV.

Tannin in Large Doses in Albuminous Anasarca. (Translated from the Journal de Médecine et de Chirurgie Pratiques, for the Southern Medical and Surgical Journal,) by WILLIAM FARELL, M. D., of Rome, Georgia.

PURE tannin, tannic, or gallic acid, such as is obtained by the process of M. Pelouze, has been but little employed in France, in large doses; but in Germany, England and Portugal, MM. Liebert, Lees, Frerichs, Scott, Allison, Burns, of Glasgow, W. Bayes, and Barral, have prescribed it with success in doses of two to six grammes, (30 to 90 grains nearly,) in the treatment of albuminuria, diabetes, hæmoptysis, hemorrhage, chlorosis, certain cases of morbid secretions, general debility, &c.

These facts prompted Dr. P. Garnier, a practitioner of Paris, to experiment with this agent in the treatment of albuminous anasarca, so frequently met with, and so often rebellious to the ordinary means. M. Garnier has published some of his observations in the *Archives Général de Médecine*, from which it would appear, that the morbid phenomena, having the common character of more or less general infiltration of the cellular tissue, with albuminous urine, have rapidly and simultaneously disappeared, under the influence of tannin in large doses.

The first of these observations relates to a little boy of three years, who, during the desquamating period of an attack

of scarlatina, suddenly presented an enormously bloated condition of the face, hands and feet, with tumid abdomen, and absence of urine during the night. Calomel, jalap, mall pellitory, nitrate of potassa, &c., were successively and repeatedly given, while the general infiltration increased until the patient could not rest on his seat. The skin became tense, shining, translucent, and apparently ready to burst; the penis was twisted upon itself and hid in the scrotum, and urine was charged with albumen. Convulsions soon supervened, which caused the dropsical effusion to yield slightly under their violent action; but it soon augmented anew, notwithstanding the use of the decoction of horse-radish, Dover's powder, tartrate of potassa, &c. M. Garnier, in despair, thought of tannin, and prescribed the following solution :

Tannin	"	2 grms.	"	(About grs. xxxj.)
Distilled water				
Syrup of cinchona	"	aa 30 grms.	"	(Say aa f 3j.)

The patient took a spoonful of this solution three times per day, continuing the tonic regimen, pursued for the last eight days.

This treatment was commenced on the 12th of January, (1859.) On the 14th, the most abundant diuresis came on; the urine flowed so frequently and copiously, that the constant use of a urinal became necessary. The tumidness greatly diminished. The solution was regularly continued up to the 18th of February; the child having taken as much as five grammes (77 grains nearly) of tannin in six days.

Under this treatment the appetite was developed, constipation relieved, and diuresis and transpiration well established, without other medical interference. On the 20th of February, the cure was complete.

After these important facts in his own practice, M. Garnier alludes to similar ones in the practice of foreign physicians.

He cites the case of a young woman, treated by M. Sampson for anasarca, complicated with "chloro-anémie." Her urine contained albumen and sanguineous globules.

This patient took three doses of fifty centigrammes of gallic acid per day, ($7\frac{3}{4}$ grains nearly per dose, or about 23 grains per

day,) and at the end of a week after, she was entirely relieved of the œdema, and not a trace of the abnormal modification of the urine remained.

We also notice, in this memoir, the case of a man, who labored under anasarca and albuminuria, for which diuretics and purgatives were freely used without effect. Professor Barral prescribed the following pills for him:

Tannin	"	30 centigr.	"	(About $4\frac{1}{2}$ grains.)
Gum Arabic	"	4 grms.	"	(Say 1 drachm.)
Syrup	"	q. s.		

Make one dozen pills.

The patient took three of these pills the first day, six the second, and nine the third, and so on. On the fourth day, the œdema was sensibly diminished and the urine flowed copiously. On the tenth day the cure was nearly complete. A few days later, Bland's pills were substituted for those of tannin. In this case, six grammes (about $92\frac{1}{2}$ grains) of this acid proved sufficient to relieve the infiltration.

Tannin affords more advantages in draught, than in pills, but as the tannic solution becomes decomposed and altered after a few days, M. Bayes prefers the pillular form. It is necessary, however, when the pills are used, to administer them at meal-time, unless the patient be allowed to drink freely immediately after taking them. M. Garnier usually prescribes it in solution, in his practice; using mucilage as a vehicle to mask its disagreeable taste.

Counter-Extension with Adhesive Plaster. By J. McF. GASTON, M. D., Columbia, S. C.

THE use of adhesive plaster for the purpose of extension, is generally and favorably known to the profession, but its application as a measure of counter-extension requires to be brought more fully to the attention of practitioners, and a case of fracture of the femur, which has been treated chiefly by this process, may serve to illustrate this procedure.

Rufus, a servant of Mr. John Davis, was placed under our care on June 16th, and upon a special examination with my partner, Dr. A. N. Talley, a comminuted fracture of the lower

third of the shaft of the femur was discovered. With the assistance of two of our students, extension was effected, and after coaptation of the fragments, the roller bandage was applied to the entire limb. Three splints were next fitted to the thigh, and Welch's long extension apparatus was then adjusted by a gaiter, to secure the ankle to the foot-board beneath, and a silk handkerchief wrapped around a roll of cotton as a perineal bandage, tied firmly to the upper end of the long splint above the crest of the ilium. By means of a screw connected with the apparatus, extension was now made, until the measurement from the anterior spinous process of the ilium to the internal malleolus was found to correspond to that of the sound limb.

The muscular development of the thigh afforded great resistance, yet the extension was steadily maintained for a week, when there was such excoriation from the perineal bandage, as to induce a discontinuance of this mode of counter-extension, for the application of adhesive plaster, on the principle, but not precisely in the form, suggested by Dr. Gilbert of Philadelphia.

A strip of strong linen plaster, two inches wide, and two feet in length, was doubled upon itself at an angle, so as to make a loop, and yet both of the extremities having their adhering surfaces in the same direction. One of the free ends was pasted closely over the spinous process of the ileum, and extended down towards the inguinal region; while the other end was carried down and pasted over the trochanter, so that both pieces had firm attachments, by the closeness of the integument to these bony prominences, and thus presented resistance to traction upon the loop above. Transverse strips were placed from one piece to the other, to secure their adhesion. A piece of homespun was now passed through this loop and made fast to the upper end of the long splint, thus effecting counter-extension. When the apparatus was tightened by the screw, it was found that all the indications were met satisfactorily, while the excoriated hip and the perineum were left entirely free for such applications as the ulceration required. The strips adhered closely for three weeks without interference, and have proven an efficient means of counter-extension.

Those who may be interested in this subject, will find a well written article on the adaptation of adhesive plasters to counter-extension, by Dr. D. Gilbert, in the April number of the American Journal of Medical Sciences, in which he details his mode of application and the principles involved in their use; while other articles from his pen may be found in the numbers for January 1851 and 1858, in the same journal.

The only particular in which my proceeding is entitled to any superiority over the process of Dr Gilbert is, that it makes the

attachment of the strips extend over the firm unyielding points of bone, and thus serve, perhaps, to give a more fixed resistance to the force of extension. But while this is original with me, I prefer no claim which shall lessen the appreciation of the eminent service which has been rendered to the profession by the elaborate articles above referred to, and I trust that all may profit by their perusal, and cease to punish the subject of fracture with the excoriations of a perineal bandage.

In connection with this application of adhesive plaster, I would notice its use also in a case of fracture of the patella, which occurred in our practice recently. Being called on Feb. 7th, of this year, to a servant of Mr. Robert Bryce, Dr. Talley and I went together, and found a transverse fracture of the patella, with the upper fragment drawn up considerably by the contraction of the muscles. Bringing the fragments in apposition, a figure of eight bandage was first applied, but subsequently, at the suggestion of my brother, Dr. J. B. Gaston, of Montgomery, Alabama, we resorted to the use of adhesive strips, to keep the fragments in apposition. Three pieces of plaster, an inch wide and twelve inches long, were carried from above the knee round the inner side of the patella to the upper and inner part of the leg; while three other similar pieces were carried from above the knee around the outer side of the patella, to the upper and outer portions of the leg, thus keeping down the upper fragment of bone securely. Another set of strips were attached in a semi-circular arrangement around the lower fragment, by which accurate apposition of the fragments was effectually maintained. This plan of treatment is attributed to Dr. Neill, and Erichson makes reference to it in his work on Surgery. Our case progressed favorably, and though the union is not osseous, the connecting layer of cartilage is perhaps shorter and firmer than is usual in this accident, and does not interfere at all with locomotion.

In a fracture of a similar kind, which I treated some years ago, the case was managed throughout by the figure of eight bandages, with a good result as to the union of the fragments; but I had to keep the entire leg and thigh encircled with a roller,—the latter to control the action of the muscles, and the former to suppress the swelling which would have ensued from the obstruction to blood vessels and absorbents at the knee. This difficulty is entirely obviated in using the adhesive plaster, as it extends only partially around the limb, and leaving that region free where most of the vessels are located. And the same views hold in reference to their application to the upper and outer part of the thigh, instead of extending round the inner part, where the vessels and nerves are located.

Enough has been said to indicate the advantages of the ad-

hesive strips in this class of cases, but at a future day I propose to give my personal experience in the treatment of inflammation by the compression of adhesive plasters.—[*Charleston Med. Journal and Review*.

Puerperal Convulsions Successfully Treated by Croton Oil Suppositories. Letter from Mr. OVERTON.

PUERPERAL convulsions are usually so alarmingly dangerous, and cause so much anxiety, both to relatives and friends—ay, and to the medical attendant, at the same time—and are often so rebellious to all treatment, that I trust you will deem the two following cases, extracted from my note-book, worthy of insertion in your columns.

CASE 1.—Mrs. R., aged twenty-four, married about two years. A miscarriage took place six months after marriage, when she suffered considerably from nervous excitement, which, however, soon yielded to appropriate treatment. She was again pregnant in September, 1858, and enjoyed good health till February, 1859, when I received a summons to visit her immediately. I found her suffering from general anasarca, with excruciating pain in the head, restlessness, vomiting, and febrile symptoms. Upon the whole, I did not like the appearance of those symptoms. I prescribed saline aperients, with alteratives, etc.; cold applications to the head. The symptoms did not yield to this treatment: constipation gave some trouble.

March 15.—I was again sent for in great haste; the husband stating that his wife was in a fit, and all feared she was dying. I was soon with her, and found her suffering from epileptiform puerperal convulsions, frothy blood issuing from her mouth, and there were clonic spasms present. I at once abstracted blood from the arm, to about thirty ounces, put six to eight grains of calomel on her tongue, administered an enema of senna, etc., and applied a blister to the nape of the neck. These, combined with cold applications, produced little or no other effect than that of mitigating the acute pain in the head, between the convulsive paroxysms, which paroxysms became frequent. The patient having had no relief from the bowels, I deemed it advisable to mix six drops of croton oil with lard, in the form of a suppository, and so use it. This produced tenesmus, with a sense of smarting, burning heat in the lower bowel; but relief followed, and a copious watery evacuation almost immediately ensued. The patient had no more convulsions. Upon examination, I found no signs of on-coming labor, nor did the slightest chance of producing it present itself.

16th.—On my visit this morning, I found Mrs. R. calm, and

free from convulsive symptoms; the anasarca had disappeared; micturition normal; bowels relieved (largely) four times; os uteri in the same state as before.

17th.—I found her dressed, and sitting by the fire in a lower room.

24th.—I was again sent for; and this time I found her in labor, the os uteri fully dilated, and the head presenting. Fearing a recurrence of the convulsions, I turned the child, and delivered her of a still-born, putrid child.

25th.—I found her quiet and comfortable, she had passed a good night, and from that period she went on well without one unfavorable symptom.

CASE 2.—*Puerperal Convulsions; recovery; subsequent death from swallowing a row of front false teeth.* February 18.—Anna F., aged twenty-two, a country servant, primipara, unmarried, six months advanced in pregnancy. The man to whom she was engaged to be married left the neighborhood, and married another woman. This event produced great despondency, and on her way home to see her mother, she was seized with convulsions about every ten minutes. At this time she lost four front teeth, fixed on a silver plate; they could not be found. She had swallowed them. I was sent for, and found her suffering from puerperal convulsions. Blood issued from her mouth; the tongue bitten severely; clonic spasms; head cool; pulse small and compressible; micturition scanty; bowels not open. Upon examination, I found the os uteri high up in the pelvis contracted. I introduced the catheter, and some urine came away. I then administered an enema of castor oil and ol. terebinth, and put 10 grs. of calomel on her tongue. I waited two hours; but no amendment was perceptible. I now ordered 8 drops of croton oil to be rubbed into some cerate, and so passed into the rectum. In a few minutes, she complained of great tenesmus and smarting pain in the bowels. Twelve large watery evacuations followed. No more convulsions. I enjoined perfect quiet, and left her.

19th.—Found her better in every respect. No return of convulsions; she complained only of some soreness in the throat; but there was no dyspnœa.

20th.—I was sent for in the night; natural labor was going rapidly on; a large quantity of liq. amnii was discharged, and in a short time she gave birth to a dead child.

21st.—A good night; no pain in the head; lochia natural; urine had been passed; pulse good; tongue moist, but injured during the convulsions. All went on remarkably well till the tenth day, when, as she was sitting up in the bed drinking a cup of tea, and talking cheerfully with her mother, she suddenly called for a basin; vomited a large quantity of blood, sank back on her pillow, and expired.

The cause of death was evidently from the false teeth, or some portion of the metallic fastening, having penetrated some large vessel. No post-mortem inspection could be obtained.—[*Med. Times and Gazette.*

Relative Value of Different Anthelmintics in the Treatment of Tænia.

By Dr. PEACOCK, Assistant Physician to St. Thomas's Hospital.

THE following is a brief summary of a series of cases in which different anthelmintics had been employed against tapeworm. The patients were all treated by Dr. Peacock, in the out-patients' department at St. Thomas's Hospital, and we are indebted to him for access to the detailed notes upon which the statements are founded:—

As a general result of his experience both in public and private, Dr. Peacock states that he gives preference to the oil of male fern before all other remedies, and that he holds the kousso in very light estimation indeed. It appears that of the hospital cases respecting which notes have been preserved, the fern oil was given in thirty-five. Of these, in sixteen no other remedy had been previously tried, and in this group the result was always satisfactory, the animal being expelled in a dead or dying state. In seven cases the oil was given after the partially successful use of kousso, and in all these more of the worm was brought away. In three, after partial success by pomegranate bark, the oil brought away other portions of the parasite, and in one a like result was obtained after the use of the turpentine draught. In six cases in which the oil was used, either the result was not satisfactory, or the patient did not attend again. The dose of the oil given was from half a drachm to a drachm and a half to children, and from a drachm to three drachms to adults.*

The cases in which the kameela was given are seven. In five of these no other remedy has been previously tried, and in all these portions of worm (generally quite alive) were expelled. In one the expulsion of worm was caused after kousso had been tried without effect, and in the fifth, which was under similar circumstances, a like negative result followed its use also. In two cases after the successful employment of the kameela, the oil of fern was employed without procuring the expulsion of any more of the

* We are informed that great care is necessary on the part of the dispenser, in order to avoid disappointment in the use of the oil of fern. Its ethereal solution, which is by far its best preparation, on standing deposits its resinous principle. A prolonged shaking is necessary to secure re-mixture. Unless the dispenser pay more than usual attention to this matter, the patient is very likely to get a dose which is but little more than ether.

worm. The dose of kameela prescribed was from half a drachm to a drachm for children, and from one to three drachms to adults.

It would from the above facts appear that kameela is more efficient than kousso, but that it must rank as a vermifuge rather than a true vermicide. After the fern oil the animal is usually voided dead. An important statement with regard to the comparative value of kameela, is made by Mr. Henry Callaway formerly of Finsbury Circus, but now a medical missionary amongst the Zulus. The kameela is the native remedy among the aborigines; but, in a letter to the 'Pharmaceutical Journal,' Mr. Callaway states, that from experience they have learned already to put much more confidence in "the white man's dose." The latter consisted of turpentine and castor oil, the time-honored remedy among ourselves. We are not able, from Dr. Peacock's cases, to institute any comparison between turpentine and fern oil, and can only state that we believe he is supported by several other hospital physicians who have given much attention to this matter, in maintaining that the latter ought to stand *facial princeps* among our anthelmintic drugs.

As regards the economics of the question, which are important in hospital and union practice, it will, of course, be easily granted that, all things considered, the most efficient remedy will probably in the end prove the cheapest. A dose of castor oil and turpentine, undoubtedly, costs far less than any of the others. Next to it comes the kousso, which has as rapidly fallen in price as it has in general estimation. The kameela is, as yet, rather expensive, though not nearly so much so as the fern oil. A full dose of the last costs eightpence, of the kameela about fourpence, of the kousso threepence, and of the turpentine and castor oil not more than three-halfpence.

Kuchenmeister, in his 'Manual on Parasites,' (Sydenham Society's edition,) writes of the oil of turpentine as follows: "As has already been remarked, the touchstone of a remedy for tapeworm is not whether it expels *bothriocephalus latus* or *tenia solium*, but whether it is also capable of effecting this with *t. medio-canellata*. That oil of turpentine is efficacious in the latter case I can prove at any time; for the finest specimen of *tenia med.* that I ever saw was expelled by it. In general also it acts pretty rapidly. Lastly, it has also the advantage that it expels the worm entire." Of the kousso he writes, "For my part I have always been more or less unlucky with this remedy. . . . I have generally seen the worm expelled in innumerable fragments. . . . I have never found the head. In one case I detected fragments in the evacuations for three months." Professor Martius, of Erlangen, who also has used kousso largely, never saw the head brought away. Of the male fern, Kuchenmeister states; "This remedy, which will always maintain its renown against the *bothriocephali*, appears

hardly to maintain its reputation with regard to *tænia*. The kameela he had not tried.

Of the desirability of having the intestinal canal as empty as may be before giving anthelmintics, most practitioners are aware. To administer them fasting in the morning is usually thought sufficient; but in cases where difficulty has been encountered in destroying the animal it may be well, as an introductory measure, to give a sharp purgative.—[*Ibid.*

South American Arrow Poison. BY WM. D. HAMMOND, M. D.,
U. S. A., and S. W. MITCHELL, M. D.

THE following is a brief *résumé* of a long paper which appeared in the American Journal of the Medical Sciences for July, 1859, upon *carroval* and *vao*, two new varieties of *woorara*, or *curare*, as it is termed in France. The authors preface their own observations with an elaborate history of *woorara*, and of the chemical and physiological labors already bestowed upon it by Rolliker, Bernard, Pelikan, Velpeau, Brodie, etc. They then proceed to describe the physical characters, chemistry, physiological relations, and toxic peculiarities of the two new, or hitherto unknown varieties of *woorara* which have fallen into their hands. They thus examine separately the two substances *carroval* and *vao*, and state in detail the reasons which induced them to consider *vao* as but a weaker *carroval*: or else, if we comprehend them aright, as bearing to *carroval* some such relation as *brucia* bears to *strychnia*, or *cinchonia* to *quinia*.

Both poisons yielded, to appearance, one and the same essential principle, a new alkaloid, which the authors have termed *carrovalia*. This substance, whether from *vao* or *carroval*, was of a deadly potency; since, however, the authors explain that their supply of the poison was not sufficient to enable them to complete the chemistry of the subject, we shall await some further developments in regard to the tests for the new alkaloid. Although the two poisons were studied separately, it is unnecessary here to view them apart, since it has been shown that the chief dissimilarity is one of degree, and not of kind.

The new *woorara*, then, according to Drs. Hammond and Mitchell, differs remarkably from that long known to the toxicologists of Europe. Thus the *woorara* of our authors kills by paralyzing the heart; while the other, or European *woorara*, destroys by paralyzing the nerves of motion throughout the body. This singular difference completely isolates the *carroval* and *vao* poisons from all other *woorara* hitherto examined, and approximates them in character to the *upas* poison, so ably investigated

by Professor Rolliker, whose toxicological labors are as yet little known or appreciated in this country.

We refer to the following "conclusions," as setting forth what the authors conceive themselves to have proved in regard to these poisons, premising that as they seem to have been finally of opinion that carroval and vao are nearly allied, if not identical, we have thought it unnecessary to copy both sets of conclusions. We have appended to each conclusion, in brief form, a statement of the proofs in favor of the proposition set forth.

1. Carroval and vao are capable of being absorbed from the areolar tissues, and from the stomach of warm and cold-blooded animals. When given by the stomach, both poisons are more apt to cause convulsions than under other circumstances. The larger part of the absorption experiments were made with vao only. From these it was ascertained, say our authors, that it(vao) is also absorbed by the stomach, œsophageal canal, rectum, and skin of cold-blooded animals, (frogs,) with a degree of rapidity which varies; and is rapid or slow as the animal is ill or well supplied with water.

Warm-blooded animals absorb vao from the stomach and intestines when they are fasting, but suffer no ill effects when the vao is given during digestion. That this protection is not due to a mere mixture of the vao with the food of the full stomach, is shown by the fact that rabbits, whose stomachs are always more or less distended with food, are protected only when, owing to the entry of fresh food, digestion becomes active.

Both carroval and vao arrested the heart's action. This was shown by exposing the hearts of frogs, and then inserting the poisons under the skin, when the heart began to beat more strongly, then became paralyzed in parts, and finally stopped, and was found to be so dead, that in most cases no galvanic or other stimulus could induce a single pulsation. After this, the frogs thus poisoned leapt about until the cessation of the circulation produced its usual effect, in paralyzing first the sensitive and then the motor nerves. These secondary effects our authors have shown to follow any arrest of circulation in the frog. Thus, when the heart was tied, sensation and motion disappeared in an hour, even when no poison was given. Both carroval and vao were found to arrest very early the motion of the lymph hearts, and both of them undoubtedly lessened the duration of muscular irritability; while the ordinary woorara either does not effect it, or, according to Bernard, lengthens its duration.

When these poisons are administered to warm-blooded animals, death usually occurs without convulsions, except in the cat, where they nearly always are seen. In animals of this class, the arrested circulation stops the æration of the blood, so that the checked respiration is to be looked upon as a consequence and

not a cause of the injury to the cardiac functions. This was also illustrated in the case of the alligator, whose respiration continued long after the heart had ceased to move. It was also found that artificial respiration was of no value as a means of relief, as might have been suspected from the fact that the poisons destroyed the muscular irritability of the heart.

The authors were unable to discover that these poisons altered the blood, or affected the ciliary movements. They are of the opinion that the varieties of arrow-poison examined by them are of a purely vegetable origin, and contains no trace of the venom of serpents.—[*North American Med. Chir. Review.*

On a New Poison from the Interior of China. By ROBERT CHRISTISON, M. D., Professor of Materia Medica in the University of Edinburgh.

ABOUT eighteen months ago I received from China a copy of a newspaper printed at Shanghai, giving an account of a formidable poison, said to be used far west in the interior of the country, for killing game and in warfare.

According to this account, springs had been invented for using it against the British invaders; and as these had been found to answer against goats, much was expected from its aid at Canton. But, unluckily, the sudden peace nipped the scheme in the bud. That the poison might have been employed with deadly effect is very probable, if only one-half of what was said of it be true; for the account in the Northern China Journal, (April 4, 1857,) represents it to be so virulent that "instant death is inevitable from the slightest abrasion" by an arrow tipped with it. The operator, who prepares it in the shape of an extract, goes on concentrating and strengthening it until a small animal, whose skin is punctured with it, dies instantaneously: not until then, it seems, does he cease to boil down his extract. In the mountainous regions of Chihkiang large game is killed by means of arrows whose neck is encircled by the poison. Even tigers are killed in this way by the Funghwa hunters. Should a limb be struck, the beast writhes awhile before expiring; but should the arrow "hit the body, he leaps forward, staggers, and immediately falls down dead."

This is marvelous enough. But it is also said to be of a singularly volatile or progressing nature. For if the poison "be applied to blood trickling from a little wound, even though only to the lower end of the stream, the blood is rapidly blackened along its whole length; and if the stream be continuous with the wound, the subtile poison will enter, and occasion death."

This poison is the extract of a root called *Tsau-wù*; and the

plant is represented to be a perennial creeper inhabiting the central provinces of the Chinese Empire. It is added that the extract, is sometimes applied, as a practical joke, to the tongue of the unwary, "in whom it excites a keen sense of fornication."

In the beginning of January last, I received specimens relative to this extraordinary poison from Dr. D. J. Macgowan, an American physician, residing at Ningpo. The specimens included not only the poison itself, but likewise some leaves and roots of the plant which yields it. The materials are scanty; yet they are sufficient to enable me to ascertain the source of the poison pretty nearly.

The leaves present characters common to several plants of the Ranunculaceous family. Only one of the roots, which are but four in number, is entire; but even the structure of this alone, taken along with its singular impression on the organs of taste, is sufficient to prove that the plant is a species of *Aconitum*, or Monkshood. All the species of *Aconitum* that I have examined spread by roots in the following manner, of which the *A. Napellus* may be taken for an example. During winter there is nothing to be seen but an under-ground tuber, tap-shaped in all the poisonous species, with rootlets from the lower extremity, and an incipient leafy bud at the crown. Early in the spring bud begins to shoot out into the future stem, which attains its full stature toward the close of summer, or a little later. During its progress, early in summer, a little knot forms near where the crown and stem meet; and from this is gradually produced a new tuber exactly like the primary one, parallel to it and connected with it by a small band. Near the close of autumn, when the seeds of the plant are mostly ripe, both tubers seem equally vigorous, and of equal size; but the new one is firm, and continues plump on being dried, while the old one is more watery, shrivels much in drying, and, in fact, soon rots and disappears in the ground, leaving the new tuber to perpetuate the plant next season. Now, one of the Chinese roots shows a portion of the stem, with its tap-shaped, somewhat shriveled tuber at the bottom; and, attached to the crown of this tuber, a plump, firm, tough tap-shaped tuber of the same size. No one familiar with the *Aconites* can fail to recognize in this Chinese specimen a miniature representation of the root of the *A. Napellus* of Europe, and *A. Ferox* of the Himalayas.

The likeness is maintained in the very singular impression produced by this root upon the organs of taste. A little bit, no bigger than a pin's head, carefully chewed, while it is held in one spot between the tip of the tongue and the lips, produces intensely that strange combination of numbness and tingling which characterizes so remarkably all the poisonous species of the known *Aconites*. It is an impression so peculiar, that I do not know any plant, not an *Aconite*, which produces a sensation like it, except

the *Delphinium Staphysagria*, or Stavesacre,—another plant of the *Ranunculaceæ*, which, with its whole genus, presents close natural resemblances to the Monkshoods.

I have no doubt, therefore, that the Tsau-wù, or Wù-tsau,—for the name is variously given by my informant in his letters and in the labels,—is the root of a Monkshood. It is probably a new species; for, though like a diminutive *A. Napellus*, it is much whiter and more amylaceous in its interior, and yet evidently, from its taste, much more active. It is by much the smallest aconite root of the poisonous species; for the whole tuber is scarcely an inch long, and delicate in its structure.

It only remains to be seen whether the poison is really prepared from this root. The extract sent to me is still soft, and evidently made with great care and skill. The most minute portion causes in the tongue and lips precisely the same impression as the Wù-tsau root, but with extraordinary intensity. The Wù-tsau is in it therefore; and nothing more is wanted to make a most virulent and efficacious arrow-poison.

I must here enter my protest, however, against some of the statements which have been made to Dr. Macgowan by his Chinese informants, as to the action of this extraordinary poison—and, indeed, against the facility of belief among travellers generally respecting the effects of arrow-poisons used by barbarous and semi-barbarous tribes of men. The Wù-tsau cannot by any possibility travel up a stream of blood, against the current, and into a blood-vessel. It cannot cause instant death in any animal. No arrow-poison can cause instant death. All poisons which act through a wound must take a little time to act*; because they act through absorption into the blood upon distant parts—the brain, the spine, or the heart; and a solid poison cannot thus reach its destination in sufficient quantity all in a moment, even though the arrow pierce a blood-vessel.

It is possible to account for the frequent error of travellers as to the alleged instantaneousness of the action of arrow-poisons. The lapse of time is, in the first instance, apt to be overlooked or understated. But, further, if such formidable poisoned arrows as those used by the negroes of the Upper Gambia, or the Macusi tribe at the sources of the Essequibo, be struck into the trunk of even a large animal by means of their strong bows, the arrow may quite well reach a vital part, and thus arrest motion at least, if not occasion very speedy death, merely as an arrow, by mechanical violence. Small animals and birds may be thus brought down suddenly even by the little wooden darts shot through blowing-tubes by the Macusi natives of the Essequibo, as well as other wild tribes. The Macusi use the deadly Urari* poison. But

* Generally corrupted by English writers into *Wourali*, and by the French into *Curare*. Schomburgk, the best authority, says that the Macusi who make it call it invariably *Urari*.

the dart may kill as an arrow quite as well as through means of the poison, should it hit the trunk of a small animal; for its force is surprisingly great. With very little practice, I can blow the little light, wooden dart 180 feet; strike it at 60 feet so firmly into a board that it cannot be removed unbroken; and transfix with it, at a short distance, a fir board a fourth of an inch in thickness, or thirty folds of cartridge-paper.

I will also venture to take exception to the frequent propensity of travellers and others to magnify savage skill in the manufacture of such poisons, at the expense of civilized ingenuity. The Urari of the Essequibo, the Upo or Upas of Java and Borneo, the Wutsau of China, are potent poisons, no doubt. But in potency they never will stand comparison with several of the pure principles which the chemistry of civilized nations has detached from poisonous vegetables. Any tribe of men, compelled by circumstances to obtain their food by shooting game with poisoned arrows, would profit greatly could they substitute digitaline, aconitina, conia, strychnia, and other pure principles of plants, for their own cruder extractiform poisons. These principles, indeed, might be so used as to deal destruction to the very largest animals on the face of the globe.—[*Edinburgh Med. Journal*, and *North Amer. Med. Chir. Review*.

Use of Sulphate of Copper and Opium in Diarrhœa, occasioned by Dentition. By DR. EISENMANN, of Würzburg.

DURING first dentition children are frequently affected with diarrhœa. It is often so slight that parents do not regard it as a disease, and leave it to the action of nature only; at other times, however, especially when dentition coincides with weaning, the evacuations are copious, and the diarrhœa passes into the chronic state. Then the patient becomes remarkably thin, and nervous symptoms of all kinds arise; sometimes that morbid condition is developed which has been confounded with acute hydrocephalus, but which Marshall Hall has designated by the name of *hydrocephaloid*. When it has passed into the chronic state this diarrhœa is frequently fatal, the little patients dying in marasmus.

I have found a medicament, the use of which has been attended by extremely favorable results in a great number of cases of these diarrhœas.

In the autumn of 1838 Dr. Rœssel, Bavarian Aide-Major, then in garrison at the fort of Oberhaus, consulted me about a child in a low state from a diarrhœa of dentition. Sophie Krick was of delicate health; she commenced to cut her teeth with her second year. After the appearance of the first teeth she was taken with a diarrhœa, to which the parents at first paid no attention; but

soon afterwards the evacuations became serious, persisted for three months, and so reduced the child that only skin and bones remained. She was continually in a state of *coma vigil*; pulse very frequent, and hardly perceptible; no appetite, and constant thirst; in a word, her condition appeared desperate. Upon my proposition, Dr. Ræssel prescribed the sulphate of copper, associated with opium, in the following proportions:

Sulphate of copper,	gr.	$\frac{1}{4}$.
Opium,		$\frac{1}{12}$.
Sugar,		q. s.

Recommending three powders a day to be given.

The first four days there was a marked amendment, the evacuations became less frequent and less serious, and three days after the little patient commenced to convalesce. The diarrhœa ceased, the appetite returned, and digestion was re-established; the strength and the normal size of the body sensibly increased, and four weeks after the cure was completed. This case created a considerable sensation in the neighborhood, and soon after Dr. Ræssel had two similar cases to treat. He called me in consultation, and we agreed to employ the same means, and the results were equally favorable in the two cases.

In 1840, I had an opportunity to observe a fourth case of this diarrhœa at the fort of Oberhaus. The little patient presented the same symptoms as those I have just mentioned, with this difference, that vomiting still persisted, and that the disease had only continued for fifteen days. The emaciation, however, was very marked, the abdomen tumid, and sensitive to pressure; appetite bad, and great thirst; the respiration was accelerated, and there were mucous râles, without any other symptom of a pulmonary lesion; countenance pale, and a little tumefied, the expression indicating apathy. I prescribed the sulphate of copper with opium, according to the formula given above, and twelve of these powders brought about in four days convalescence, which was very short.—[*Bulletin Générale de Thérapeutique, and American Med. Monthly.*

On the Treatment of Purpura Hæmorrhagica by Tincture of Larch Bark. By Dr. S. L. HARDY, Physician to the Hospital for Diseases of Children, Dublin.

DR. HARDY tells us that he has been long in the habit of using larch bark as a stypic and carminative tonic. The tincture is of a dark carmine color, with an agreeable "pinic" smell. In taste it partakes of that of the oleo-resins. "It is," says Dr. Moore, "one of the most elegant forms at our disposal of prescribing a terebinthinate."

CASE 1.—A boy, æt. 16 years, who had frequently been a patient at the Hospital for the Diseases of Children, was presented for treatment on September 6th. His appearance was that of extreme debility; he could scarcely walk; his pulse was exceedingly feeble, and his countenance pale and dejected. He was ordered the *Liquor Pernitratis Ferri*, with good nourishing diet. Having continued this treatment until the 15th, it was perceived that his symptoms were much aggravated; and there now existed a very extensive crop of spots of purpura over his entire body; his skin was harsh, dry, and contracted; his spirits greatly depressed; and altogether his general appearance was most unpromising. There had not been hemorrhage from the gums or by stool. Tincture of larch bark was now substituted for the iron, in fifteen drop doses, to be taken every two hours.

The immediate improvement which resulted from this medicine was most remarkable; all traces of purpura disappeared, and his strength became so perfectly restored, that on the 23d instant he ceased to require further treatment.

CASE 2.—E. C—, a female child, æt. 7 years, residing in a small and badly-ventilated house, was brought to the Hospital for the Diseases of Children, on the 10th of August, having been a week ill. The account given by her mother was, that she had bleeding of the nose and gums, with discharges of blood from the bowels, and had lost all her strength. Her appearance agreed most truly with this statement. There was great debility, with a look of general distress in her countenance, sometimes more forcibly expressed by a knitting of the brows. Her body and extremities were covered with a very extensive and well-marked crop of purpura; the gums were spongy, and easily made to bleed; and her tongue was coated with a thick fur.

Tincture of larch bark was now commenced, in doses of ten drops, three times daily; after two days increased to fifteen drops, and given more frequently. On the 21st it is reported—"All bleeding has ceased; the tongue is cleansing; the bowels regular; and strength greatly improved."

From this date, under the same treatment, this child's recovery progressed rapidly and most favorably.

For the following cases, in further illustration of this subject, I am indebted to my colleague, Dr. Moore.

CASE 3.—July 1st, 1858.—John M—, æt 2 years, was brought to the Institution for Diseases of Children. He looked a soft, flabby child, and has had a cough for the last six months. On examination, I found a thick crop of purpura studded over his chest, arms, and abdomen; he was languid, with total loss of appetite, and was greatly annoyed with a soft rattling cough. He never passed blood by his bowels. As the child lived in a comparatively unhealthy part of the city, I directed that he should

be at once removed to the country; or, if that was not convenient, that he should be kept as much as possible in the park during the day. I prescribed tincture of larch bark, eight drops to be given three times a day, in lemonade; which latter beverage, well sweetened, he was allowed *ad libitum* during the day and night.

July 3d.—The spots fading; cough still troublesome.

5th.—Purpura scarcely perceptible; the child to leave for the country. Larch bark discontinued.

I have seen this boy frequently since; he has had no return of the purpura, and the cough has entirely ceased. His general appearance is much improved.

CASE 4.—*Case of Bleeding from the Gums, and general Cachexia.*—Matilda M.—, æt. 5 years, was brought to the Hospital for Diseases of Children, 15th September last. She looked anæmic and puny, and for the last few days free bleeding from her gums had occurred, two or three times, during the day and night. On examining the state of her mouth, I found the tongue "too red," and gums spongy. I prescribed ten drops of the tincture of larch bark, to be taken in cold lemonade four times during the day; the girl to have cold lemonade to drink freely; her food to consist of vegetables and fruit.

September 18th.—The bleeding has only occurred once during the last two days. Continue the larch bark, ten drops three times a day. Lemonade and vegetable diet as before.

21st.—General improvement in the patient; state of the mouth and gums much healthier. There has been no return of the bleeding; however, I thought it advisable to continue the larch bark a little longer, and prescribed gutt. viij. twice daily, in a mixture of chlorate of potash. This treatment sufficed to confirm the previous amendment.

I looked carefully for petechiæ in this case, but could not discover any.—[*Dublin Hospital Gazette.*

On Injection in Gonorrhœa. By Professor SIGMUND.

PROFESSOR SIGMUND, of Vienna, as the result of his extensive observation in this class of diseases, is decidedly in favor of the employment of injections in the treatment of gonorrhœa. He believes that those who have derived no benefit from their use, or who have observed mischievous consequences from this, have in the great majority of cases, employed them improperly. He has tried injections with balsam of copaiba, and with chloroform, but has given them up as unpractical, and those made with the patient's own urine, while taking balsam copaiba, were found to be as inert as water. From among a large number of substances tried, he confines himself now almost entirely to sulphate and acetate of zinc or lead, alum, and tannin; and of these he pre-

fers the sulphate of zinc to all others, because the great majority of patients are cured by it; it acts mildly, neither soiling the linen nor changing the color of the urine, and it is very cheap.

For injections to succeed, they must be used at the proper time, in a suitable dose and manner, and they must be continued sufficiently long. The period for their employment has arrived as soon as the inflammation of the mucous membrane of the urethra has become subdued; but they should not be used as long as there is present considerable swelling, great, or even slight, if continuous, pain, spasms, or frequent calls to pass urine. The dose of the material should be small, as five grains to the ounce of extract of lead, one quarter of a grain of nitrate of silver, one grain of sulphate or acetate of zinc, &c. It is seldom necessary to increase the original dose. The addition of anodynes, as opium, hyoscyamus, &c., has no advantageous effect. We should carefully teach the patient how to use the injection; and a small tin syringe, with a conical tube, is to be preferred. It should hold at least two drachms. The patient should be placed in the upright position, and should pass urine prior to the injection being thrown in. The tube must be so passed into the urethra, that no fluid can flow out between the canal and the tube. The fluid is now to be slowly thrown in, and then the mouth of the urethra is to be kept closed by two fingers, so that nothing can pass out during two or three minutes. Two injections are to be thrown in, one after the other, and they are to be repeated three or four times daily. The injections should not be thrown in just before going to sleep, as they then sometimes give rise to seminal discharges. They must be persevered in for eight or ten days, after all traces of diseased secretion have ceased to be visible, even in the morning. The average time required will be from twenty-one to twenty-eight days. Internal means may also, if desired, be employed, and balsamic medicines in many cases hasten the cure.

Dr. Sigmund rarely has recourse to caustic injections, as the nitrate of silver, sulphate of copper, chloride of zinc, &c., because generally the experiment is dangerous. He limits their use to simple, uncomplicated gleet, which has resisted the usual means, as also to recent gonorrhœa without inflammation occurring to persons who have already employed the treatment with advantage.—[*Schmidt's Jahrbuch*, and *Ranking's Abstract*.

On the Shortness of the Duration of Labor. By Dr. J. GRAY.

IN order to increase the action of the uterus, and thereby hasten delivery, Dr. J. Gray advises us to excite the nipple as labor-pain comes on, and continue the stimulation so long as it lasts. This

is accomplished by passing the left hand gently but continuously upwards and downwards over one or other of the nipples; or by stimulating with the fingers the act of sucking of the infant. By such manipulation, he says, the nipple erects, and in virtue of *reflex action*, the uterine contractions increase in force; while at the same time the os dilates, and the external parts become relaxed. Besides shortening the duration of labor, he finds it has also the effect of preventing hemorrhage. The second stage of labor completed, if the placenta be not in the passage, he still maintains at short intervals the friction over the nipple, in order that the uterus may expel its contents; and also resorts to it in cases where he has occasion to fear "flooding."

"Reasoning," Dr. Gray remarks, "from the practice of ancient and modern times, and influenced especially by the theory of reflex action, as recently discovered and propounded by Marshall Hall, I have lately been led to adopt this mode of irritating the nipple, in order to increase the action of the uterus, with a view to the abridgement of labor. If, I inquired, the application of the child to the breast causes the womb forcibly to contract, and thus prevents 'flooding,' may not a similar operation, artificially performed, have the same effect in promoting the contractile efforts of the uterus, and hastening the delivery? That it does so, very ample trial has fully convinced me. In difficult cases, indeed, which require instrumental aid for their termination, it will most probably prove useless—failure depending upon malformation either on the part of mother or child. But where the child is in the normal position and of average size, and should no deformity exist in the pelvis or soft parts of the mother, I have found it generally successful. I never, however, be it remembered, interfere in those cases where there is already active uterine contraction.

[*Glasgow Med. Jour.*, and *Ibid.*

Formation of an Artificial Pupil by Tying the Iris. By Mr. CRITCHETT.

THE object of this operation (which Mr. Critchett terms *iridde-sis*, from *ἰρις*, and *δεσις*, a binding) is to prevent the receding of the portion of the iris drawn through the cornea in the operation for artificial pupil. This operation is performed in the following manner: The patient, if at all restless, being placed under the influence of chloroform, the wire speculum is inserted, and, with a pair of forceps, a small fold of the conjunctiva close to the cornea, is held so as to fix the eye. An opening is then made with a broad needle through the margin of the cornea, *close* to the sclerotic, and just of sufficient size to admit the canula forceps; with it a small portion of the iris, near, but not close to, its ciliary

attachment, is seized and drawn out to the extent considered necessary to enlarge the pupil; a piece of fine floss silk, previously tied in a small loop round the canula forceps, is slipped down and carefully tightened around the portion of iris made to prolapse, so as to include and strangulate it. This manœuvre requires a little practice and dexterity, and is best accomplished by holding each end of the silk with a pair of small forceps with broad extremities, bringing them exactly to the place where the knot is to be tied, and then drawing it moderately tight. A single tie is sufficient; the ends are then cut off, and the operation is complete. Little or no irritation usually follows. The small portion of iris included in the ligature speedily shrinks, leaving the little loop of silk, which may be removed from the eye about the second day. This operation has been performed many times by Mr. Critchett, and by his colleagues, Mr. Bowman and Mr. Poland, and the result has been in every respect most satisfactory; the size, form, and direction of the pupil can be regulated to a nicety; its mobility is preserved, and the eye speedily recovers from the effects of the operation. It is applicable to numerous groups of cases, including all those in which the natural pupil, or even a part of the natural pupil, is moveable, and has a free edge.—[*Ophthalmic Hospital Reports*, and *Ibid.*

On Laryngoscopy. By Dr. CZERMAK, of Pest.

UNDER the head of "a contribution to laryngoscopy," Dr. Czermak relates a case of chronic loss of voice, of supposed nervous origin, chiefly because it was often suddenly aggravated by emotional causes; in which, by means of a small laryngeal mirror and an ordinary study lamp, he was enabled distinctly to make out a small dark-colored tumor, of the size of a small green pea, resting, by a tolerably broad base, on the right true vocal chord. The growth had a somewhat uneven surface, and seemed of soft consistence, inasmuch as each vibration of the chord caused its whole substance to tremble, and when closed on by the glottis, it seemed somewhat elastic; the sudden exacerbations of hoarseness, from emotional causes, depended, no doubt, on the more or less erectile character of the growth. Dr. Czermak only saw the patient once in passing, but suggested the propriety of operative interference in such cases, and relates this case chiefly as an encouragement to others to prosecute this method of diagnosis by means of Garcia's laryngeal speculum, recalling, however, the fact that this method of diagnosis dates long previous to Garcia, and referring for proof thereof to Liston's 'Practical Surgery,' London, 1840, p. 417.—[*Winer Wochenschr.*, and *Ibid.*

Effects of Ligature of the Œsophagus in Animals. Report of M. TROUSSEAU.

THE question here proposed assumes a vast importance, from the fact that in a large number of the experiments upon the ingestion of poisons, made by Orfila and others, the œsophagus was tied to prevent the rejection of the substance employed. Until a recent period, no one seems to have suspected that the mere ligation of the œsophagus could give rise to formidable symptoms and to fatal results, which might be wrongly referred to poisons previously placed in the stomach. In June, 1856, MM. Bouley and Reynal sent to the Academy of Medicine a communication, in which they believed themselves to have demonstrated that ligature of the œsophagus was not the innocuous operation which Orfila believed it to be; that in most cases it was followed by grave symptoms, and that when permanently applied, it was inevitably fatal. The bearing of these statements is clearly this:—Orfila left on record a large number of experiments in which he had placed various substances in the stomachs of dogs, and then tied the œsophagus. If, now, the latter observers are right, and this operation is alone competent to destroy life, nearly all of Orfila's experiments will demand a new and more rigorous scrutiny.

The paper of MM. Bouley and Reynal was referred to a commission, composed of MM. Begin, Bouley, Jobert, Larrey, Rénault, and Trousseau, the latter of whom acted as reporter. To the same commission were also referred additional communications on the same subject by M. Orfila, a nephew of the toxicologist, Follin, Sédillot, Colin, Szumowski, and Jobert.

After a patient, experimental criticism of the views of these several observers, the commission arrived at the following conclusions:—

1. Ligature of the œsophagus causes symptoms of a serious nature, which should not be neglected in toxicological studies.
2. These symptoms are more or less grave as the ligature is more or less rightly applied.
3. Permanent ligature of this canal causes death in nine-tenths of the cases.
4. The maximum duration of life, under these circumstances, having been six days, doubt is cast upon the supposed toxicological characters of substances tested by ingestion and subsequent ligature of the œsophagus, when death follows their administration only after the lapse of two, three, four, five, or six days, and with still more reason when it is yet longer delayed.
5. The symptoms which follow the permanent application of a ligature to the œsophagus, are profound prostration, supervening at the close of twenty-four hours.

6. The consecutive leisons are inflammation of the nerves which accompany the œsophagus, with or without purulent formations in the track of the wound, so that where these complications attend the administration of poisons retained in the stomach by ligature of the œsophagus, their supposed effects are to be regarded with suspicion, owing to the impossibility of referring the accidents in question to the supposed poison, or to the means used to retain it in the intestinal cavities.

7. The temporary ligature of the canal is fatal but in three of one hundred cases.

8. It is hence inferred, that when the ligature is to be used, it should be applied without great pressure, and should be removed within six hours.

In commenting upon the report here analyzed, M. Brown-Séquard states that two experiments are needed to make the matter complete—First, to irritate the nerves of the œsophagus, without obstructing that canal; and second, to tie it after cutting the said nerves. To try the first of these, he divided the canal longitudinally, and fixed it in a tube by the aid of two ligatures, so that deglutition and vomiting were still possible. The accident observed by MM. Bouley and Reynal showed themselves in this case, but to a less extent than when the canal was tied without the use of a tube.

In the second experiment, the two recurrent nerves were divided and a ligature placed about the canal near the thorax. In this case, the phenomena recorded by Bouley and Reynal failed to appear! The symptoms observed by these gentlemen were therefore due in all probability to reflex impressions affecting the buccal, pharyngeal, salivary, bronchial, and gastric secretions, and analogous to the flow of tears which follows irritation of the cornea.—[*Jour. de Physiologie*, and *N. Amer. Med. Chir. Rev.*

Arnica Montana.

THE therapeutical properties of the *Leopard's bane* is made the subject of an article in the College Journal by Dr. T. C. Miller, and we abstract as follows the observations he has made with it in his own practice. He says:

I have been accustomed to use it for twenty-eight years. In nervous fevers characterized by torpor, this remedy is very valuable to rouse the sinking energy of the nerves, particularly the nerves of the abdominal viscera, while at the same time it increases the contractile power of the muscular fibres, and especially the fibres of the unstriated muscles of the walls of tubes and ducts. It is a very valuable remedy in enteric fever, and where there is colliquative hemorrhages, passive sweatings, and exanthemata of the abdomen. It will not take the place of vale-

rian, quinia, camphor or the acids, for its action on the system is unlike that of either and all of these. These four great remedies have each its own distinctive influence, and each is a valuable aid to the others, when needed.

In inflammations combined with torpidity, as in typhoid pneumonia; in inflammation of the brain and its coverings, in gangrene, and other similar affections, it requires oftentimes, camphor, quinia, and perhaps opium, to be given in conjunction with it.

In obstinate maltreated intermittents, with torpidity of the abdominal viscera, and engorgement and enlargement of the spleen and liver, and perhaps abdominal dropsy, and in the so-called typhoid cholera, arnica is of great value. My brother, Lewis E. Miller, uses it in conjunction with ether in those cases.

In old, atonic gout and rheumatism, especially locally applied, it always is of value. In dysentery, where the disease is complicated with torpidity of the bowels, or constipation, exhaustion, or colliquative dysentery, it is peculiarly indicated. In these cases I consider the root preferable to the flowers.

In passive hemorrhage, of a scorbutic character; in discharges from the respiratory or the reproductive organs; in bloody or serous extravasations caused by contusions and hurts, it is the main remedy I depend upon. It is also very valuable in atonic dropsies.

The external use of the flowers, in tincture or infusion, is the best agent I have tried in acute hydrocephalus.

In paralysis, particularly where the paralysis has been caused by mechanical influence upon the brain or spinal marrow, but the nerve structure remains in-tact—not by congestion or softening of the nerve structure—and in the commencement of amaurosis, it has always proved of utility. Theilmann, in treating amaurosis, made use of an infusion of three drachms of the flowers to eight ounces of water, and gave a large spoonful at a dose, once in three hours.

In enlargement, torpidity, or engorgement of any of the abdominal viscera; and also in suppression of the menstrual, lochial, or hemorrhoidal discharges in consequence of torpidity, its use is of great value. Leidbeck speaks very favorably of it in varicose veins of pregnant women. I have derived great benefit from it in such cases.—[*Peninsular Independent*.

On the Natural Constants of the Healthy Urine of Man. By the
Rev. SAMUEL HAUGHTON, F. R. S., F. T. C. D.

HAVING already given an abstract of that portion of the above paper which treats of urea, we now proceed to do the same with respect to parts two and three, relating to uric and phosphoric acids:

"I believe that both uric and hippuric acids are accidental in healthy urine, though the former is always found in small quantity; the latter, hippuric acid, occurred to me only once, though it was carefully sought in each case. When I say that uric acid is accidental in healthy urine, I do not mean to say that it occurs like chlorine and sulphuric acid, the quantity of which depends directly on the chloride of sodium, and sulphate of alumina and potash consumed with the food; but I do mean, that no uric acid whatever, should occur in the urine of a man in perfect health, but that all the nitrogen of the urine should pass off in the form of urea, a more highly oxidated product than uric acid."

The quantities of uric acid excreted daily, according to the varying statements of eminent chemists, amount to from five to eighteen grains. In Mr. Haughton's tables, the quantity differs greatly in different individuals, ranging from 0.71 to 11.88 grains in "beef-eaters," and from 0.50 to 2.48 grains in vegetarians; the mean in the former class is 4.55 grains, in the latter 1.48 grains daily.

"When we consider that the quantity of urea passed by the persons considered in these tables per day, is 5.76 grains, and 3.94 grains, respectively, we may fairly consider the uric acid discharged simply in the light of a minute fraction of nitrogen, which has escaped complete oxidation, and as a matter rather of chemical than physiological interest."

Liebig sets down the average daily discharge of hippuric acid at 7.5 grains—a statement quite at variance with that of Mr. Haughton, who found it only in one case, that of a vegetarian, whose urine had "a remarkable smell, compounded of that of sweet hay and apple-juice."

"There is no subject respecting which more difference of opinion exists, than with reference to phosphoric acid eliminated by the kidneys; some investigators considering that it is as accidental in its character, and as dependent on food, as chlorine or sulphuric acid; while others regard it as the direct product of the disintegration of nervous tissue, and, as such, entitled to our regard as the measure of nervous work done by the system. In whatever point of view it is to be considered, it is obviously important to determine its daily amount in the case of healthy men, under different conditions as to food and work of mind and body."

The average quantity of phosphoric acid discharged per day was found to be, in beef-eaters (6 in number,) 37.07 grains; in vegetarians (5 in number,) 26.70 grains; and in the former probably, and certainly in the latter, the proportion of the acid combined with alkalies was to that combined with earths in the ratio of 4 to 1.—[*Dublin Medical Press.*]

On a new mode of treating severe Dyspepsia and Chronic inflammation of the Stomach. By ALEXANDER FLEMING, M. D., Senior Physician to the Queen's Hospital, Birmingham.

"IN the medicinal treatment of affections of the stomach, I have long been convinced of the great importance of acting directly on the gastric mucous membrane. That, in fact, local treatment is here nearly as valuable as it is in affections of other mucous surfaces, as the eye, pharynx, vagina, and urethra. Hygienic rules and the management of the food are, for obvious reasons, very important in affections of the stomach, and will often cure mild cases without the help of medicine; but I am satisfied that, in the more severe and obstinate forms of chronic gastritis, the local medicinal treatment of the diseased mucous membrane has been unduly neglected—and that it contributes very powerfully to promote the cure.

"Of the several medicines which I have employed with a view to their *local* action on the stomach, my experience gives the first place to nitrate of silver; and the observations I have now to make apply to this remedy. It is often given in pill. If this be made with bread-crumbs, the chloride of sodium in the bread converts the nitrate into the insoluble and comparatively inert chloride of silver. If made with gum or starch, the pill, on reaching the stomach, causes quickly the secretion of gastric juice, the chloride of sodium and muriatic acid of which again render the nitrate inert. It can have very little *local* action in the form of pill. I have for many years, therefore, given the crystalized nitrate dissolved in distilled water, in the proportion of from half a grain to four grains to the half ounce. The dose is taken at bedtime on an empty stomach, and is repeated every night, every second, third, or fourth night, according to the severity of the disease. The stomach should be strictly empty—the patient recumbent—and he should be made to roll about immediately after taking the medicine. It is thus, before it suffers decomposition, brought into contact pretty freely with the mucous membrane, and gives, at the time and subsequently, evidence of its local action. In many cases, this mode of using the remedy suffices, in conjunction with other means, to effect a cure.

"But this method of exhibiting the medicine is not equal to the cure of some of the severer forms of dyspepsia and chronic gastritis; and in these I have, for the last four years, endeavored to act more generally and efficiently on the mucous surface by injecting the solution into the stomach. I employ a strong brass syringe and flexible tube, one-eighth of an inch in bore, the gastric end of which has a number of holes so directed that

the fluid is thrown in a circular shower outwards and upwards on the walls of the stomach. The injection is made by dissolving from one to four grains of the nitrate in three ounces of distilled water. The operation is for the most part managed easily. Sometimes it causes nausea and retching—oftener not. It excites at first an enduring and grateful sense of coolness in the stomach, and subsequently there are felt pricking and sharp painful sensations, but of a different nature from the pains of the disease. Sometimes one injection is enough, but I have more frequently had to repeat it two, three, or more times.

“During the employment of the injections the patient takes, three times a day and before food, a little morphia or chloric ether, or Indian hemp, in plain or cinnamon water. He is confined to small and frequent meals of milk, and as he gets better this is thickened with arrowroot or tapioca, and he is very gradually introduced to a nourishing and easily digestible diet. Counter-irritation to the epigastrium, nitrate of bismuth, oxide of silver, gentle tonics, &c., are employed when indicated.

“Of the thorough efficiency of this mode of acting on the mucous surface of the stomach, and of its power in promoting the cure, my experience, so far as it goes, is very decided. Although it is now four years since I first tried injection, I have not used it in more than ten cases. I have always in the first instance, employed the simpler method already described, and resorted to injection only as a last resource; but its greater efficiency would, I feel certain, justify its employment in many of the less severe cases, and give more thorough and speedy cures. It is not my purpose, at present, to consider the intimate nature of the mode of cure, or the manner in which the nitrate of silver substitutes healthy for diseased action in the inflamed gastric membrane. I must reserve that interesting question, and the detailed narrative of cases, for another opportunity.—[*Med. Times and Gaz.*

On the Question of the Affinity between Scarlet Fever and Measles.

By Dr. KUTTNER, of Dresden.

THAT measles and scarlatina, in their symptoms and in their essence, present two well-defined states of disease, is one of the most indisputable facts in pathology. Schönlein, making use of an analogy derived from botanical science, looks on measles as a peculiar exanthematic form of catarrh, and accordingly places it in the family of the catarrhs; whereas scarlatina is placed by him in the group of erysipelatous diseases. Admitting that, in the regular course, such sharply defined examples of the diseases exist, Dr. Küttner observes, that experience furnishes us with androgynous cases calculated to embarrass even the expe-

rienced "diagnostiker." If the diseases were always so well marked as we find them in the handbooks, there would be no difficulty. Sometimes the exanthem bears the character of scarlatina, while the catarrhal irritation of the bronchial membrane, and of the mucous membrane of the nose and of the eyes, indicate the morbillous process; or, on the other hand, the rash of measles is accompanied by vomiting, by a sharp attack of angina, and by the characteristic scarlatina tongue.

We see occasionally, in the same individual, parts of the skin presenting the scarlet-red eruption, while in others the rosy rash of measles exists. We have, then, not merely examples of transition, but we see cases which may be termed hybridous. If we were even disinclined to assign any relationship to the two diseases, arising from the fact of their passing into each other, there is still another observation which shows it in a higher degree—namely, that the *same* contagious matter appears capable of producing, in different individuals, different diseases; in some measles, in others scarlatina. Many reliable proofs of this are to be found in medical literature, to which the following may be added, as affording good examples: During an epidemic of measles, a boy of sixteen years of age became affected with the disease, which ran a favorable course, and at the end of three weeks he was sent from Dresden to his father's country house, at some distance from the city. A little sister, two years of age, who visited the brother on the day of the appearance of the rash, although immediately sent away, sickened on the tenth day, presenting the ordinary symptoms of the eruptive fever; in her, too, the disease passed over mildly. A second sister, one of the older members of the family, who had before repeatedly attended upon persons in measles without taking the disease, did not now escape. There yet remained a third sister, who was married, and who had been for fourteen days on a visit to her father's house, but who, from never having had measles, carefully avoided intercourse with the sick and the convalescent, not, however, guarding against the possibility of transmission through a third person. Without any previous indisposition, sharp febrile symptoms appeared in this case, leading to the belief of the invasion of measles. An intense scarlatinal eruption, however, manifested itself, with the characteristic affection of the throat, and with the red-tongue. The exanthematic period passed over without any remarkable symptoms, ending in the second week with an extensive exfoliation of the epidermis. No second case of measles or scarlatina occurred in the house.

Although observations such as these have been made by practical physicians, and recorded, still this is worthy of notice,

from the concurrent circumstances, and because the course of the disease was so characteristic as to leave no doubt as to the correctness of the diagnosis.

In what relation scarlatina and measles stand to each other, and whether the same contagion can, in reality, produce both forms of disease, we are scarcely in a position to determine. A sceptic will naturally say that the scarlatina of the last named case was not the product of the contagion of measles, but was developed independently.

Admitting, however, that a direct proof to the contrary cannot be given, the fact nevertheless remains, and no communication from without, capable of conveying scarlatina, took place. Is it in reality so preposterous a notion, that the matter of the exanthematic contagion may act like a ferment, without any specific character, and according to individual disposition, may produce measles in one case, and scarlatina in another, as, under similar conditions, the impression of cold may cause in one individual catarrh, and in another rheumatism?—[*Jour. für Kinderkrankh.*, and *Ranking's Abstract*.

On the Physiology and Pathology of the Nervous System. By Dr. BROWN-SÉQUARD.

THE principal points which Dr. Brown-Séquard endeavors to establish in connection with the physiology and pathology of the central nervous system are these :

1st. Excitations of the anterior roots of the spinal nerves may be a cause of pain, because these roots, being motor, produce a *cramp*. The pain due to this cramp is what has been erroneously called *recurring sensibility*. Cramps, and several other kinds of painful spasms (of the uterus during parturition, of the sphincter ani in certain cases, &c.,) are painful on account of a galvanic irritation of sensitive nerves accompanying muscular contractions.

2d. Our movements seem to be guided by the peculiar sensations we derive from the galvanic irritation of certain sensitive nerves of muscles, while they contract.

3d. The power of transmitting sensitive impressions exists in many parts, which are not able to give pain or any other sensation, when they are excited by our usual means of irritation ; so it is with the gray matter of the spinal cord, and with many parts of nerves, which, however, are conductors of sensitive impressions.

4th. Hyperæsthesia is a constant result of certain injuries upon, or alterations of, the posterior parts of the cerebro-spinal axis, from the tubercula quadrigemina down to the lower end of the spinal cord.

5th. The transmission of sensitive impressions, in the spinal cord, takes place chiefly through the gray matter, and partly through the anterior columns; but, before reaching the gray matter, the impressions, in a certain measure, pass through the posterior columns.

6th. The conductors of sensitive impressions from the trunk and limbs, decussate in the spinal cord, and not in the encephalon, as was universally admitted.

7th. Although the spinal cord is greatly altered or injured, sensibility, more or less diminished, may persist everywhere, on account of a peculiar arrangement of the conductors of sensitive impressions.

8th. The various kinds of sensitive impressions seem to be conducted by quite distinct nerve-fibres, in the nerves and in the nervous centres, and the place of passage of some of these conductors in the spinal cord, seems not to be the same as that of the others, but none of them go up to the sensorium along the posterior columns.

9th. In the upper part of the cervical region of the spinal cord, near the medulla oblongata, most of the conductors of the orders of the will to muscles are in the lateral columns, and in the gray matter between these and the anterior columns.

10th. The voluntary motor conductors decussate at the lower part of the oblong medulla, and not all along the median line of the base of the encephalon.

11th. The posterior columns of the spinal cord have a great share in reflex movements, and this is the principal cause of the peculiar kind of paralysis so often observed in cases of alteration of these columns.

12th. The effects of excitation of the vaso-motor nerves, consist essentially in a contraction of bloodvessels, which is followed by a diminution in the quantity of blood, in the temperature, and in the activity of nutrition. The effects of interruption of continuity of the vaso-motor nerves, (*i. e.* their paralysis) consist essentially in a paralytic dilatation of bloodvessels, which is followed by a greater afflux of blood, an increase of temperature, and a greater activity of nutrition.

13th. As a great many vaso-motor nerve-fibres go up to the brain, and to the cerebellum along the spinal cord, the medulla oblongata and the pons Varolii, the diseases or injuries of the various parts of the cerebro-spinal axis, besides symptoms concerning sensibility and movement, present symptoms depending upon irritation, or paralysis of vaso-motor nerves; contraction or relaxation of bloodvessels, diminution or augmentation in the quantity of blood, increase or diminution of temperature, alterations of nutrition, of secretions, &c.

14th. Besides the influence of the nervous system upon nutri-

tion, absorption, and secretion, through the vaso-motor nerves, there is another which seems to consist in changes in the elements of the tissues—changes producing various modifications in the quantity of blood attracted, and in the interchange of materials between the blood and the tissues.

15th. The absence of the influence of the nervous system on any part of the body, is hardly a cause of other alterations of nutrition than atrophy, while the irritation of the nervous system, is a most powerful direct or reflex cause of a great many morbid changes in nutrition, secretion, &c.

16th. The sympathetic normal and morbid changes of nutrition, secretion, &c., are reflex phenomena, the study of which shows how many diseases are produced by a reflex action, and how a rational mode of treatment might be arrived at.

17th. The loss of consciousness in simple vertigo or in complete attacks of epilepsy does not depend upon a disease of the brain, but upon a contraction of the bloodvessels of the cerebral lobes—contraction due to some irritation of the vaso-motor nerves of these vessels, either by some direct cause irritating them in the base of the encephalon or the spinal cord, or by a reflex influence.

18th. Much more frequently than has been imagined, all the following affections may be produced by a peculiar kind of irritation starting from almost any centripetal part of the nervous system: epilepsy, the various forms of insanity, chorea, catalepsy, hysteria, tetanus, hydrophobia, &c.

19th. The medulla oblongata is neither the only nor an essential nervous centre for the respiratory movements.

20th. There are a great many nerve-fibres and nerve-cells in the medulla oblongata, the pons Varolii, and the other parts of the base of the encephalon, which are not employed in the transmission of sensitive impressions or of the orders of the will to muscles, and are endowed with the singular property of producing, after even a slight irritation, a *persistent* spasm in certain muscles, and especially in the neck. Rotatory convulsions very often depend chiefly upon the production of such spasms, and of changes in the bloodvessels of certain parts of the encephalon.

21st. The irritation of the auditory nerve may cause rotary or simple clonic convulsions.

22d. The conductors of the orders of the will to muscles, of the sensitive impressions, and of the nervous influences to bloodvessels, decussating at different places in the cerebro-spinal axis, various symptoms are to be observed, depending upon either the irritation or the paralysis of these three kinds of conductors, according to the part of a lateral half of the cerebro-spinal axis where an alteration exists.—[*London Lancet.*

Hysteria considered as a connecting link between Mental and Bodily Disease. By Dr. W. CAMPS.

DR. CAMPS'S object is to draw attention to such forms of hysteria as present marked evidence of *psychical*, in addition to, or complication with, *somatic* affection. Until within a comparatively recent date it has been the custom to consider mental disease as unconnected with or independent of bodily disease. But insanity is far more a bodily disease than has hitherto been considered; and in cases of this malady there is mostly, if not always, impairment of the proper healthy cerebral structure.

Dr. Camps gives a brief account of the hysterical paroxysm, which is almost, though not exclusively, confined to the female sex. It is, however, in the moral state and motives, which not unfrequently attend or accompany the severer forms of hysteria, that we may recognise without difficulty the approximation of this disease to some of the forms of mental disease. In severe cases of hysteria, amidst considerable general disorder, the nervous system being chiefly involved, the proper functions of the brain often become deeply affected. There is observed in such an increased susceptibility to impressions, a great rapidity of movements, together with a capriciousness of motives; the countenance indicates the alterations that take place in the feelings of the patient; and in the worst cases, the most amiable sentiments are observed to be converted into the most unamiable and repulsive. In some, there appears to be, at times, a complete metamorphosis of the whole moral character. This state of the disease becomes a subject of the deepest importance, more especially in regard to its moral treatment, so far as regards the imposition of personal restraint, or confinement of the patient; for nothing would be more injurious to a hysterical patient in this condition than undue interference with personal liberty. The functional activity of the spinal chord, as well as of the brain, may be morbidly diminished, or augmented, or perverted; and this latter state is especially the condition in hysteria. The perversion of the functional activity of the spinal cord is most marked in some cases, in which there is an extreme irritability of the cord at least, if not of the entire cerebro-spinal axis; and in the severer forms of the disease there doubtless exists an excessive irritability of the whole nervous centres; and it may be, of the entire nervous system, including even the nerves themselves. It might be assumed that the irregular, convulsive, and impulsive actions of hysterical patients, depend rather upon some state of the blood, which alters its healthy relation to the nervous tissue, than upon any structural alteration of the proper nervous tissue itself.

During the last nine months, Dr. Camps has had under his

care a somewhat severe and remarkable case of hysteria, which, he thinks is one that afforded him good reasons to conclude that it, and similar cases, present phenomena that clearly show a connection between mental and bodily disease. The subject of this affection was a lady, above fifty years of age, of a highly nervous temperament, who first came under his notice, presenting many of the ordinary characters of hysteria; but as the disease gradually developed itself, this patient presented, in addition, many of the characters of a very protracted and aggravated case of this disease. There were paroxysms of choreic movements; at first chiefly confined to the lower extremities, and to the left side of the trunk; these gradually affected, in a slighter degree, the upper extremities; being attended then with considerable paroxysmic palpitation of the heart, and heavy, labored respiration. Then supervened excessive restlessness of the body generally, so that when out of bed, the patient was almost always in bodily action, seldom or never sitting, frequently not even when at meals; in motion whilst standing, and very frequently walking hurriedly about in various apartments of the house. This was followed by, and accompanied with, excessive talkativeness, so as to fatigue her companions. When remonstrated with, and requested to be silent, her reply was, "I must talk, for I cannot help it." The subject of her conversation was, almost invariably, herself, and her peculiar ailment and condition, and this ultimately assumed the form of intense selfishness or egotism. There was no derangement of the special senses, nor of the general cuticular sensation. The disease appeared to ascend gradually higher along the cerebro-spinal axis, and at length to reach the sensory ganglia, and the cerebrum itself; for certain *psychical* phenomena presented themselves at times, bearing the closest affinity to those exhibited in some forms of mental disease. Commonly, the patient slept well during the earlier part of the night, and seldom or never complained of pain in any part of the frame. The faculties of perception and memory were unimpaired, as was the judgment also in relation to all matters of business demanding close attention; the imagination was in too lively exercise at times, but the will appeared to have lost its controlling power over the current of the thoughts. The patient would frequently remark, "My thoughts master me; I cannot help thinking about myself: I seem at times to have lost the power to think of anything, or of anybody, beside myself." Frequently, but not always, there was great irritability of temper; and this would sometimes be expressed in words, and sometimes in actions. The will having lost its controlling power, the impulses arising from this state of excessive emotional sensibility were occasionally expressed in very irregular and extraordinary phrases and actions of the body.

The view the author takes of this case was, that it is mainly connected with the cessation of the menstrual function. Moreover, in this case, there was excessive irritation, possibly congestion, of the greater part of the cerebro-spinal axis, including at least the sensory ganglia at the base of the brain—a condition of parts sufficient to account for most if not for all the symptoms connected with the nervous system.

Dr. Camps concludes by a brief reference to the treatment of hysteria. The measures recommended are: 1. The use of such agents as improve the general health, and especially the general state of nutrition of the nervous tissue; 2. Of such agents as remove the exciting causes of the paroxysms; and lastly, of all such agents as are likely to act beneficially upon the mental state and condition of the patient.—[*British Med. Jour.*, and *Ranking's Abstract*.

On the Delivery of the Child by Turning as a general rule in Labor. By Mr. E. GARLAND FIGG, of Borrowstowness.

IN this paper Mr. Figg attempts to show, not only that delivery by turning is preferable to delivery by the forceps in cases requiring operative interference, but that turning is the rule to be adopted in general cases. He tells us that he has attended sixty labors since writing these papers, that only *three of these were conducted as head presentations, and that of the remainder, two were breech presentations, and fifty-five deliveries by turning.* As the results of this astonishing practice we leave Mr. Figg to speak for himself:—

“With regard to the children, they are generally still from two to five minutes, and in some cases half an hour's duration. In many instances the first arm brought down is a little painful when moved for a day or two. I confess with humility that I have even broken four arms, which, though they occurred in cases of great pelvic contraction, were attributable to my own mismanagement in pressing over the shaft of the os humeri instead of following its line to the elbow. Should you commit the same error, with similar result, be not too candid to the relatives, but at once by your own dictum transubstantiate the injury into a slight sprain received by the infant striking its shoulder against the backbone of the mother while actively prosecuting his uterine gambols. It will pass current, more especially if you appeal to her experience, when it is sure to be corroborated by a quotation of the day and hour of the occurrence. Two slips of pasteboard applied, with a strip of calico a yard long, remedies the evil in ten days.

“In establishing a comparison between the advantages deri-

vable from turning in primiparæ and multiparæ, I believe there is a preponderance of argument in favor of the former. In a primipara the os uteri is more in the axis of the pelvic brim, the body of the organ being more inclined to the perpendicular, and not projecting anteriorly, as in the frequent parturient; hence, in the former case, the uterine efforts of the last month previously to labor lodge the os and cervix inclusive of the head low in the cavity of the pelvis, not only assuring the practitioner by tangible proof of the perfect capacity of the brim, but also presenting the best arrangement for the co-operation of the uterus with his extractive efforts. In the latter case, from the yielding of the abdominal muscles in former labors, the fundus bearing forwards, throws the os in the direction of the spine, rather than the pelvic cavity. Hence until the contraction of these muscles in some measure restore the proper axis, no advance can take place.

"The advantage in the second particular is briefly explained, by stating that in a primipara the antagonistic force is directly in line with the extractive. In a multipara it is entrenched round a corner.

"Again, in a primiparal case you have good grounds for the conviction that, in obviating the perineal stage, you limit the labor considerably; while in the latter patient an hours suffering might conclude the case.

"Be they right or wrong, these are the sentiments which have guided my conduct in a large majority of my cases latterly, experience appearing to justify in happy results what theory dictated on sound reasoning. I hope I shall soon lose all mental impressions of a head lingering on the perineum, or stationary from failing pains for hours. My primiparal patients are up in four day, without swelling of the vaginal muscles, nymphæ, or labia; and what to me is perfectly unaccountable, with very slight laceration of the perinium.

"I have had but one maternal death where the infant was turned, and that occurred five days after the event, by inflammation of the peritoneum of a patient, who with contracted pelvis, had submitted to the ordeal to produce her sixth full-timed dead child.

"If I be entitled to any credit at all, it is for the candid avowal of a practice, that some, under fear of professional censure, would have adhered to but concealed.

"The operation was ancient, but nearly obsolete, and its revival by Dr. Simpson in particular circumstances led to my adoption of it in general cases."

In a latter communication, written chiefly as an answer to the strong objections of Drs. Robt. Lee, Ramsbotham, and Oldham, are the following passages: "Permit me," says Mr. Figg,

“with humility to observe, that while physiology, anatomy, and analogy enables me to concoct as rational a theory for the operation as they can against it, I bring forward a formidable ally to my cause in nearly eighty-seven consecutive cases of perfect convalescence in mother and child, without adverting to a still greater number of successful instances effected at various intervals antecedently. Do these gentlemen impugn my veracity? Let them depute any member of the profession resident either in Edinburgh, Glasgow, or London, to visit the locality of my residence, and by impartial inquiry of my patients prove its immunity from danger and their satisfaction as to its adoption.” And again: “While my deliveries average two per week, I have had but one death during the year—the second child of a woman aged 45, born to a second husband after a widowhood of fourteen years.”—[*Med. Times and Gaz.*]

On the Supposed Antagonism of Ague and Consumption. By Dr. PEACOCK, Assistant Physician to St. Thomas's Hospital.

AFTER a careful statistical investigation, Dr. Peacock concludes that the information elicited in this manner is only negative. He then inquires whether clinical observation is capable of yielding more positive results, and after relating six cases, he proceeds to say:—

“The facts which I have now detailed, conclusively show that neither does the existence of consumption prevent the occurrence of ague, nor the occurrence of ague preclude the subsequent development of consumption; but they do not prove that the supposed antagonism may not, in some degree, exist. For, on the one hand, phthisical patients, subjected to the influence of malaria, may take ague in less proportion than healthy persons similarly exposed; and on the other hand, persons who have had ague may be less liable to consumption than those who have not had the disease. These objections I have no means of meeting; but when it is considered that, within a period of two years, five cases of the co-existence of the two diseases have fallen under my own notice, at one public institution, where the majority of phthisical patients do not come from malarious districts, the coincidence cannot be regarded as exceptional or rare.* I cannot, then, but conclude, that it is not probable any material antagonism exists between phthisis and in-

* During the two years in which these five cases occurred, Dr. Peacock treated, at St. Thomas's Hospital, among the in and out patients, 236 cases of ague, and at least 262 cases of phthisis. The precise number of cases of the latter disease he cannot give, as some cases of phthisis are entered in the out-patients' book as “affections of the chest.” He has also met with several other cases in which there was reason to suspect tendency to phthisis in aguish patients.

termittent fever. The facts do not, however, warrant the denial of the supposition altogether, and there are probably few popular ideas which have not some foundation in truth.

"The correct inference would appear to be, that the influence, if any, exerted on the prevalence of consumption, by a malarious atmosphere or by ague, is far less important than that of various other causes which affect the development of that disease. The practical conclusion also to be arrived at is, that as phthisical patients may take ague, and as such complication materially aggravates the original disease, we should, in selecting residences for consumptive patients, avoid those situations which are marshy, or in which aguish affections are known to prevail."—[*Med. Chir. Review.*

On the employment of Oil of Turpentine and Opium in large doses, in severe Puerperal Diseases. By Dr. E. BONFILS.

M. TROUSSEAU has lately employed, with considerable success, a method of treatment proposed originally by Dr. Graves, in puerperal diseases. This treatment consists in giving opium and oil of turpentine in large doses to women in child-bed who are attacked with metro-ovariitis, peritonitis, uterine phlebitis, &c. Among other cases, M. Trousseau has treated in this manner, and with success, a woman attacked with peritonitis and double pleuro-pneumonia. He also employed this plan in another case of a woman attacked with general and very severe peritonitis, which was very rapidly checked and afterwards cured; but although the cure appeared to be permanent, the patient was unfortunately seized with hectic symptoms of an insidious character, and sunk under what appeared to be a putrid infection. In the first case the opium was prescribed in pills and the turpentine in injections. At first five centigrammes (about one grain) of opium were given in five pills, to be taken daily; then the dose was gradually augmented till it reached about two grains a day. The opium was continued for thirteen days. The turpentine was administered at first in the dose of ten grammes (about two drachms and a half,) in two clysters, one in the morning and the other in the evening; then the quantity was progressively augmented to thirty grammes (about seven drachms and a half.) In the second case the opium was also given in pills, in the dose of five centigrammes (about one grain) for three days. The oil of turpentine was administered by the mouth in capsules, each containing one gramme (about the fourth of a drachm) of turpentine; six of these capsules were taken every day, and they were continued for six days.—[*Bull. Gen. de Therap.*, and *Ranking's Abstract.*

On the Accidents Produced by Catheterism. By M. CHARLES PHILLIPS.

THESE not unfrequently occur, however carefully and adroitly catheterism may have been performed. Usually, they are not to be predicted, although they are more frequently met with in certain diatheses, and during old chronic affections, which also add much to their gravity and importance. The size of the instrument or nature of the operation do not seem to exert any effect in their production; nor do nervous and pusillanimous subjects seem to be more liable to them; but the seat of the affection appears to have considerable influence, as they much more frequently occur when this is near the neck of the bladder or beyond the bulb. The explanation of the exemption of women from these accidents by the ease with which catheterism is performed on them, seems contradicted by the fact that they sometimes, in men, follow catheterism when performed with the greatest ease, and at others are not produced by the most violent manœuvres.

Passing by those of the accidents which are of a local character, such as hemorrhage, retention, etc., M. Phillips confines his attention to the *general* accidents, which may be divided into three categories: 1. They are manifested under the form of simple febrile paroxysms, unattended with complications. 2. The febrile accident is complicated by some disease, especially of the urinary organs, and particularly of the kidney. From simple intermittent it becomes a remittent affection, and only temporarily yields to quinine. In the 3rd, the febrile paroxysms are more or less rapidly followed by the production of plegmonous inflammations and suppurative arthritides. In the simplest form, the febrile paroxysm much resembles that of ague, except that it is determined by the catheterism, and is less regular in its recurrence. Whether confined to the simple febrile paroxysm complicated with disease of the urinary organs, or accompanied by abscess, the paroxysms may assume the quotidian or double tertian type. The continued remittent type is oftenest met with when there is prior disease or abscess. Under these circumstances, too, the pernicious condition may ensue, or it may at once arise in the aged or enfeebled.

Simple Febrile Paroxysms.—Sometimes these disappear promptly of their own accord; but at others, they are more persistent, or may even assume the pernicious form. Under all circumstances, however, they yield to the action of quinine.

Febrile Paroxysms Complicated with Diseases of the Urinary Organs.—When disease of these exists, febrile paroxysms are easily induced, although in the case of their being slight, they may sometimes yield, like the simple ones, to quinine. In

other cases the fever is converted into an obstinate continued remittent. When the disease of the urinary organs is more serious, this type, or the pernicious form of fever, may be at once developed.

Production of Pus in the Joints.—M. Velpeau first described this as one of the accidents supervening upon catheterism. In certain of the patients suffering from disease of the urinary organs, a considerable effusion takes place in one or more of the joints. They rapidly increase in size, and become red, hot, and very painful; and the danger is then very great. The pus which forms is very fluid and very fetid, resembling that of urinary abscess.

Diagnosis and Prognosis.—The really important question to decide is, whether the febrile paroxysm supervening upon catheterism have aroused or revived a nephritis,—of all complications in these cases the one to be most dreaded. Determined in the affirmative, we have then to ascertain how far this complication may have placed the case beyond our aid. If after one or two paroxysms, there being constant renal pain, the skin is found harsh and dry, the pulse rapid and full, and above all, if the tongue which is always dry and sometimes cold, becomes covered with a blackish coating, the worst issue is to be expected. When the fever is followed by plegmonous inflammation or arthritis, we may at first confound the disease with an attack of rheumatism, gout, or gonorrhœal arthritis. The rapid progress of the disease to suppuration helps to elucidate its nature.

Nature of the Disease.—Velpeau advanced the hypothesis that admission of some of the principles of the urine into the blood, owing to defective elimination of these, was the origin of the symptoms witnessed: and the researches of Claude Bernard upon the varying colour of the renal blood, seem to confirm this view. The urinary odour of the abscesses, even when remote from the possibility of infiltration, has often been remarked. Phlebitis may also give rise to these accidents; but then either a purulent collection existed already, or the passage of the instrument has given rise to the formation of one, and then the patient dies in consequence of purulent resorption.

Treatment.—Experience has shown that preventive treatment is often quite efficacious, and even when not so, remarkably diminishes the severity of the subsequent attack. It consists in administering quinine for four or five days prior to the catheterism, giving six grains per diem in the young and robust, and double the quantity in the aged and enfeebled. When the intermittent paroxysms are quite simple, expectative treatment usually suffices; but when they persist or assume worse types, large doses of quinine, as fifteen to thirty grains, should be given daily. In the case of disease of the kidney, it must be

remembered that the quinine is only a palliative, and that the nephritis calls for our greatest attention.—*Bulletin de Thérapeutique*, tome lv. pp. 203—216.

[Dr. Wolff, in the *Berlin Med. Zeitung*, 1858, No. 42, relates an interesting case, in which the patient was carried off amidst febrile symptoms sixty hours after the introduction of the catheter. Dr. Heyfelder, of St. Petersburg, also reports two cases in the *Deutsche Klinik*, 1857, No. 35, in one of which the patient died in twenty-four, and in the other in forty hours afterwards.]

[*Medical Times and Gazette.*

On the Employment of Extract of Belladonna in the Treatment of Irritable Bladder. By HENRY BEHREND, Esq., L. R. C. P., Edin.

THE efficacy of the extract of belladonna in the treatment of that hitherto most intractable disorder, incontinence of urine, has been so abundantly proved by the concurrent testimony of numerous authors during the past two years, that it may now be considered as one of the established facts of medical science. It has already led to an investigation into the action of this remedy in several kindred affections, and induced me some time ago to give it a fair trial in a most severe and protracted case of irritable bladder. The causes of this painful disorder have met with so clear an exposition at the hands of my friend, Mr. Gant, in his recent able volume upon the subject, as to render any further inquiry upon the present occasion unnecessary; but I may be permitted to add my testimony to that of all other physicians who have directed their attention to the subject, to the increasing frequency of the malady, especially amongst the wealthier classes of society. Indeed it seems to advance *pari passu*, with the spread of refinement and civilization, and their too frequent attendants—enervating and luxurions habits. The success of the treatment in the case referred to was so striking as to induce me to put it on record, that its efficacy may be tested by other experimenters; especially as, since its discontinuance, now more than six months ago, there has not been any tendency to relapse.

The patient was a married lady, without family, about thirty years of age. Some five or six years ago she had suffered from acute dyspepsia, but shower-baths and horse exercise had completely cured her, and she had enjoyed uninterrupted good health until about two years ago, when she was suddenly, and without any assignable cause, attacked by the complaint for which she first consulted me in August, 1858. Previously to its commencement, which was in May, 1857, she had always slept

remarkably well, and had seldom or never been disturbed during the night; but during the last fifteen months, the irritability of the bladder had been so great as to render the immediate evacuation of its contents imperative at least three or four times during the night, and often as frequently as seven or eight times, or even more. During the day there was little or no irritability, and the quantity of urine passed was normal, or nearly so; but in the course of the night, two or three times the natural amount was passed, pale, insipid, and when tested, free from sugar, albumen or other abnormal constituents. The combined effects of the loss of rest and the drain of fluid from the system had materially affected her general health. She had lost flesh, and suffered much from thirst, headache, and nausea, especially upon rising in the morning. She was much depressed in spirits, and took a desponding view as to the ultimate result of the malady. I prescribed successively the tincture of the sesquichloride of iron, compound tincture of valerian, tincture of hyoscyamus, liquor potassæ, diluted mineral acids, sea-bathing, and change of air and scene, without the least amelioration of the symptoms; and upon her return to town at the commencement of October, I decided upon giving the extract of belladonna a trial. She began taking it in doses of the twelfth of a grain three times a day, in the form of a pill, and was at this period always disturbed four or five times in the course of the night, and often much more frequently. The belladonna was at once increased to a third of a grain three times a day, or a grain in all, as soon as I found that its use was not forbidden by any peculiarity of constitution. These doses were continued for about six weeks, (with the occasional intermission of a day or two,) at the expiration of which period its toxical effects began to manifest themselves; for though the pupils were not dilated, yet vision was not normal; black spectra appeared; the mouth and fauces were parched and dry, and there was occasional nausea. Already the improvement in the symptoms was decided; my patient slept better, and was never disturbed more than three times in the night.

As it is a recognised fact, that in order to obtain the full amount of benefit from the belladonna, it must be pushed until its specific symptoms are quite established, I now increased the daily amount taken to a grain and a half, in the proportions of half a grain in the morning, and one grain at nine P. M. In the course of three or four days, the pupils became dilated, the nausea extreme, and there were repeated efforts to vomit, for the most part ineffectual, but occasionally followed by a little glairy mucus. The irritability of the bladder became almost entirely subdued; she was disturbed once only, or at most twice, throughout the night, and the quantity of urine passed was normal, or

only occasionally slightly increased. The belladonna was at once discontinued, the general health rapidly improved, and during the past six months the cure has been permanent, and my patient has continued perfectly free from any recurrence of her distressing complaint, except that a slight tendency to irritability of the bladder manifests itself now and then, for one or at most two nights in succession, but passes away of itself, and is not of sufficient consequence to require any treatment.—[*Norfolk Crescent*, and *London Lancet*.]

Different Modes of Performing Lithotomy in the English Hospitals.

A large majority of English Surgeons employ the ordinary lateral method of lithotomy on a curved staff. There has been, however, a considerable disposition to endeavor to improve on it of late years. The median plan, so strongly recommended by Mr. Allarton, has been tried by not a few London Surgeons, and amongst provincial ones has found a warm advocate in Mr. Teale, of Leeds. At the London Hospital it was first adopted, by Mr. Ward about two years ago, and since then has been employed by his colleagues, Mr. Critchett and Mr. Gowlland, each in a single instance. All the three patients were children, all recovered well, and in all it was considered that much less than the usual amount of bleeding took place. At Guy's Hospital, Mr. Cock has performed median lithotomy several times, and Mr. Erichsen has done the same at University College Hospital, both Surgeons being, we believe, well satisfied with its results. On all hands it was considered to be the best adapted for children and for small stones. At St. Bartholomew's, Mr. Lloyd still continues to operate in all cases by his recto-urethral (median) method, which was described in detail when he first adopted it in 1853. He informs us that he has not yet lost a case after it, and considers it decidedly preferable to the lateral operation. His colleagues, however, without exception, we believe, always employ the latter. At the Metropolitan Free, Mr. Hutchinson always employs his rectangular catheter-staff, and considers that he obtains great advantage from it. The same instrument has been employed at King's College, by Mr. Lee, but it is not, as far as we observe, in use at any other Hospitals. In a recent instance in which the calculus was of large size, Mr. Hutchinson injected the bladder with oil instead of water, in the hope of facilitating the dilatation of the parts.

With regard to the median operation as advised by Mr. Allarton, it is universally admitted to be adapted only for small calculi. Now Mr. Lloyd's experience during the last few years has quite proved, that when the anterior commissure of the

sphincter ani is cut clean through from the perineal wound, there is no danger of the parts not healing. Might it not be well, therefore, to adopt this measure whenever, after the usual median incisions, the stone has been reached and is found too large for removal? Mr. Lloyd's operation gives abundance of room.—[*Med. Times and Gazette.*]

On Different Forms of Syphilitic Inoculation.

THE object of this paper was to show that primary syphilis does not always commence in the same way. The "specific pustule," in which all syphilitic diseases were formerly said to originate, is produced by one kind of syphilitic inoculation only, and that form is one which does not give rise to constitutional or secondary symptoms. As nearly all the experiments on syphilization had been performed so as to produce this pustular variety of the disease, it follows that no fresh constitutional syphilitic disease can be engendered by syphilization so practised. The kind of syphilitic sore which infects the system, commences in a different way, and when not artificially irritated, it gives rather to the adhesive than to the suppurative form of inflammation. This form of disease Mr. Lee has shown, in 1856, to be, as a rule, not inoculable upon the person who had it. This view had more recently been confirmed by the researches of French Surgeons. But although not ordinarily inoculable like the suppurating form of the disease, yet it was capable of being rendered inoculable by artificial irritation. The results of the inoculation were, however, then uncertain in their results, producing little local irritation, and capable of being transmitted by successive inoculations a very limited number of times. These observations applied only to inoculations performed upon the individuals who had at the time, or had previously had, infecting sores. The author described one kind of suppurating sore which was surrounded by induration, which could not always be distinguished from the induration of the infecting sore. The induration could not, therefore, always be taken as the diagnostic mark of a sore which would infect the patient's system. The character of the secretion, however, gave the information which the induration did not always give. If care were taken to prevent any accidental cause of irritation, the secretion from an infecting sore, would soon cease to be purulent, whereas, in the suppurating sore surrounded by induration, (the phlegmonoid variety of suppurating sore,) the secretions would continue, as in other forms of suppurating sores, puriform to the last. The number of cases of indurated sores which had been said to have been inoculated by Dr. Sperino and others, led to

the conclusion that the two forms of disease now described, had not been distinguished from each other. It was now ascertained that the infecting sore could not, as a rule, be inoculated upon the patient having it, whereas the plegmonoid variety of the suppurating sore, was of all kinds the most readily inoculated. When inoculated artificially, it produced a pustule containing well-formed pus within forty-eight hours, and it was occasionally followed by an eruption of a brick red colour, confined to one part of the body,, disappearing spontaneously, and not recurring. This eruption was, therefore, certainly not syphilitic.

The various points in the paper were illustrated by experiments, drawings, and tables of cases.—[*London Lancet.*

Useful Plan of Supporting Stumps After Amputation.

At Guy's Hospital for the last two years, Mr. Hilton has been in the habit of supporting the stumps of amputated thighs in a manner which is worthy of notice, from its cleanliness and convenience, together, with the comfort accruing to the patient. It consists in applying a short and broad splint under the stump, which is elevated at an angle of forty degrees; beneath the splint is a small cushion, and a light bandage is applied over all. This permits of examination and dressing without the slightest disturbance to the patient, the stump always looks clean and healthy. The cases in which it is at the present moment employed, are the following:

A young man, twenty-two years of age, was admitted on the 23rd March, for extensive pulpy degeneration of the synovial membrane of the left knee, with incipient disease of the lungs. The former had existed for twelve months, and was making rapid inroads upon his health. The thigh was removed at its upper third on the 23d ultimo; and when we examined the stump on the 5th instant, it had almost entirely healed, and looked remarkably clean and healthy from the way in which it was put up. The phthistical symptoms have completely subsided.

A second case was that of a man, aged forty-eight years, who, as we gather from the notes of Mr. Tuck, his dresser, was kicked by a horse on the knee, twenty-one years ago, causing, at that time, a wound over the patella. He has been subject to frequent attacks of pain and swelling ever since. Three years ago the symptoms generally increased. Seven weeks back an abscess was opened at the side of the knee, and subsequently two openings had to be made to let out pus from the joint. The bones were much diseased, and he had suffered most acute pain. Considering his age and other circumstances, Mr. Hilton

thought the most prudent course was amputation through the thigh, which he performed on the 5th instant, under chloroform. When placed in bed, the stump of this patient was carefully put up by Mr. Tuck in the manner already described, and we learn he is going on extremely well.—[*Ibid.*

EDITORIAL AND MISCELLANEOUS.

MEDICAL COLLEGE OF GEORGIA.—It will be seen by the Twenty-eighth Announcement, published under cover of our July number, that the Annual Lectures in this Institution “will commence *on the first Monday in November next*, with a general Introductory by Professor JOSEPH JONES.” The prospects of the College for a large and intelligent Class are most encouraging. Students arriving in the city, will find the Registrar, Dr. CHARLES PALMEDO, in the College Library, who will introduce them to the several members of the Faculty, and assist them in procuring desirable board. Important improvements have been made in the College edifice, and the comfort and convenience of the Class have had a large consideration by the Trustees, in their new arrangements.

PRIZES TO MEDICAL STUDENTS—THEIR VALUE.—There is a charm in emulation, and the hope of winning honorable distinction, though not the highest, is yet a very potent, stimulus to our best exertions. “Emulation and the love of Honor,” says one of great experience in teaching,* “constitute the appropriate stimulus in Education.” ‘In learning,’ says the wisdom of Bacon, ‘the *flight* will be low and slow without some *feathers* of ostentation.’ Mental exercise is ever sure of its reward. “The Gods,” says Epicharmis, “sell us *every thing* for toil.” We may enter the lists and contend vigorously for the prize—straining every nerve, we may reach the goal, barely in time to see another hand grasp the treasure which was so nearly our own—in disappointment we turn away, but seldom are we disheartened at the contest; instead of being tired and weary, and weakened, we have been *strengthened* by the energy put forth; we have measured arms, may be, with a giant, and though we did not conquer, we feel that, *but another trial*, is the condition of success. The sure rewards of labor are first the pleasure which comes in energizing, and next, and far more important, the increased power and desire to *energize again*. “The intellect is perfected, not by knowledge, but by activity,” is the dictum of one no less than Aristotle himself.

We find in the last Annual Announcement of the Medical College of Georgia, that encouragement is offered their Class at the approaching session, in the following terms:

* Sir William Hamilton. Lectures, p. 636.

"The Faculty of the Medical College of Georgia, ever desirous of cultivating a high degree of Scientific and Literary excellence among their Graduates, have established prizes for the competition of the Class.

At a meeting of the Faculty, held February 26th, 1859, it was

Resolved, "That at all future Commencements, A GOLD MEDAL, of the value of Fifty Dollars, (\$50,) be awarded to the writer of the best Thesis, and one of Twenty-five Dollars, (\$25,) to the second best."—[*Extract from Minutes.*"]

We highly approve the measure, and confidently predict a marked improvement in the style and value of the Theses of the approaching session in November.

ORIGIN OF PLANTS.—*A Hint to those whom it may Concern.*—The following list of *Indigenosities*, (everybody has a right to coin words we believe these days,) reminds us of the *student-experience* of one, who, though now a distinguished Professor, was once, it appears, often at a loss when questioned as to the origin of Medicinal Plants. He finally says, that he fell upon an expedient in which *guessing* was the basis-element. He found that most of the potent vegetables of the *Materia Medica*, at that time, say, near thirty years ago, came from a particular region; and therefore, whenever asked by his Professor where such or such is indigenous, his invariable and confident answer was, "From the South of Europe, Sir!" He seldom failed to give satisfaction, nor did the wisdom of his Philadelphia Professor ever even suspect the *ruse*.

He is himself now, as we have said, a Professor, and, we believe *Materia Medica* is his department. Would it not be curious if some of his own pupils should in their turn, gain *his* commendation by a similar device? Remember then, "The South of Europe," more physic comes from there "than is dreamed of in the philosophy" of most students. *Verbum sat.*

Origin of Plants —

Madder came from the East.
Cellery originated in Germany.
The chesnut came from Italy.
The onion originated in Egypt.
Tobacco is a native of Virginia.
The nettle is a native of Europe.
The citron is a native of Greece.
The pine is a native of America.
Oats originated in North Africa.
The poppy originated in the East.
Rye came, originally, from Sardinia.
Parsly was first known in Sardinia.
The pear and apple are from Europe.
Spinach was first cultivated in Arabia.

The Sunflower was brought from Peru.
The Mulberry tree originated in Persia.
The Gourd is probably an Eastern plant.
The Walnut and Peach came from Persia.
The Horse Chesnut is a native of Thibet.
The Cucumber came from the East Indies.
The Quince came from the Island of Crete.
The Radish is a native of China and Japan.
Peas are supposed to be of an Egyptian origin.
The Garden Cress is from Egypt and the East.
Horse-radish came from the south of Europe.—[*Exchange*.]

Ingenious Device.—We notice in a New York newspaper, an advertisement, half a column long, headed "Health of American Women," setting forth the virtues of the "Graefenberg Medicines." The proprietor of these medicines, or the "Graefenburg Company," represented by Dr. Bridge, a "regular physician of fine attainments and of great judgment and discrimination in the treatment of disease," offers testimonials "from the Governors of two States, the Chairman of the Board of Health of New York, one of the Surgeons-in-chief of the Bellevue Hospital, many clergymen—including the Rev. N. Bangs, D. D., the head of the Methodist Church; the State Chemist and Assayer of the State of Massachusetts; the Mayor of New York City; the United States Commissioner to Great Britain; the proprietor of Barnum's Museum, and many other public men," &c. There is nothing surprising in all this, for many of the above names are attached to other quack medicines, and there is a frankness in placing the proprietor of Barnum's Museum" on the list, which is quite refreshing. We confess, however, we were not a little surprised to see the names of several of the most eminent New York medical men appended to the advertisement. While we were wondering how these names could possibly have been procured, a closer examination showed that though they are printed in a conspicuous manner, so as to appear at first sight, as if endorsing the wonderful virtues of the Graefenberg medicines, there is in reality no fraud, since it is only stated that "convincing and unanswerable arguments have been addressed to the leading physicians and surgeons of the day, prominent among whom were Dr. Valentine Mott, President and Professor of Surgery," and half a dozen others. We do not know what reply these gentlemen made to the convincing and unanswerable arguments, but the Graefenberg Company has not seen fit to publish them, perhaps with a view of persuading the public that "silence gives consent."—[*Boston Med. and Sur. Journal*.]

Dr. S. D. Gross, Professor of Surgery in the Jefferson Medical College, has been elected to the Surgical Department of the Howard Hospital, to fill the vacancy caused by the resignation of Dr. R. L. Madison. The duties of this position are divided between Dr. D. D. Clark and Dr. Gross.—[*Ibid*.]

The Reportoire de Chimie says that the *Ailanthus Glandulosa*, or Japan varnish tree, yields a fixed oil, which is a powerful vermifuge.

Alcoholic Extract of Mezereum.—By treating with alcohol the fresh bark of *Daphne mezereum*, a dark green extract is obtained, of a burning acrid, bitter, and at the same time sweetish taste. Water extracts from it a brown red fluid, consisting mainly of sugar, daphnin, malate of potassa, salts of lime, and magnesia, but still retaining some acrid taste. By dissolving the residual green resinous matter in some alcohol, so that it becomes of the consistency of honey, by evaporation in the air, a strong preparation is formed, possessing the rubefacient property in a high degree, and which may be used as a salve or spread upon silk or other material.

By treating such an alcoholic resinous solution with an alcoholic solution of potassa, a milky green fluid is formed upon the addition of water, and on adding to this dilute hydrochloric acid, light green flocculi precipitate, perfectly soluble in alcohol when washed, and possessing the same acrimony. This shows that the resinous matter particularly possesses the rubefacient property, and that it is not destroyed by the process of saponification.—[*Wittstein's Vierteljahresschrift*, and *Penin. Independent*.

Syrup of Coffee for Whooping Cough.—When whooping cough has resisted the agents most ordinarily used, the following syrup, which is the formula given by M. Delahaye, slightly modified, will be used with full success. We have experimented very often, says Dr. Courbassier, in the localities where whooping cough appears each year with an epidemic character, and it has rarely failed us. Here is the mode of its preparation :

Take eight ounces of Mocha or Martinique coffee, slightly browned, in powder ; treat by displacement with boiling water, so as to obtain sixteen ounces of infusion.

Dissolve in this liquid, alcoholic extract of belladonna, alcoholic extract of ipecac, of each 3 l 1-4 ; alcoholic extract of chinchona, gr. xxxvj ; add sugar ʒxvj. Digest on a water bath, and filter.

The dose for children of three or four years is a tablespoonful repeated three times a day. Under this age, the dose should be reduced one half.—[*Revue de Thérapeutique*, and *Ibid*.

Atropine in Epilepsy.—Dr. Maresch, of Vienna, administers atropine to epileptic patients in the following manner : he dissolves a grain in five hundred drops of rectified alcohol, and of this solution he gives from five to ten drops, (from one hundredth to one thirtieth of a grain). This dose is administered every day from sixty to ninety days, without intermission, and then is to be resumed after an interval of from thirty to forty five days. Coffee, tea, and chocolate must be excluded. It favors menstruation, rarely induces constipation, more frequently diarrhœa, during which it must be suspended. (Translated from *L'Union Med.*, by Dr. S. E. Chaille.)—[*N. Y. Med. Press*.

Formula for Menta-gra.—Administer the usual general medicines, and when the scabs have fallen away, use the following solution :

R Zinci Sulph. ʒss. Cupri Sulph. 3j.
Aquæ Distillat. Oj. Aquæ lauro-cerasi ʒss. M.—[*Ibid*.

Artificial Pupil — Iriddesis.—The usual way of operating for artificial pupil is often clumsy; the pupil is too large and irregular, and often too near the cornea. You cannot regulate the size and place by the old method. Try a new way by tying the prolapsed iris in the following way:—The patient, if at all restless, being placed under the influence of chloroform, the wire speculum is inserted, and with a pair of forceps, a small fold of the conjunctiva close to the cornea is held, so as to fix the eye. An opening is then made with a broad needle through the margin of the cornea, *close* to the sclerotic, and just of sufficient size to admit the canula forceps; with it a small portion of the iris, near, but not close to, its ciliary attachment, is seized and drawn out to the extent considered necessary to enlarge the pupil; a piece of fine floss silk, previously tied in a small loop round the canula forceps is slipped down and carefully tightened around the portion of iris made to prolapse, so as to include and strangulate it. This manœuvre requires a little practice and dexterity, and is best accomplished by holding each end of the silk with a pair of small forceps with broad extremities, bringing them exactly to the place where the knot is to be tied, and then drawing it moderately tight. A single tie is sufficient; the ends are then cut off, and the operation is complete. Little or no irritation usually follows. The small portion of iris included in the ligature, speedily shrinks, leaving the little loop of silk, which may be removed from the eye about the second day. By this method, the size, form, and direction of the pupil can be regulated to a nicety.—(Mr. Critchett, p. 242).—*Braith. Retro.*

Premonitory Symptoms and Treatment of Diphtheria.—Symptoms are a deposit of white putty-form membrane about the isthmus faucium, or between the anterior pillar and the tonsil, with generally slight constitutional disturbance; the cervical glands generally enlarge about the fourth day, earlier than in scarlatina; tongue foul, but not punctated as in scarlatina; nose full and tumid, and sometimes a slight acid discharge from the nostrils; prostration, *without typhoid symptoms*; pupils lax; pulse feeble; albumen sometimes found in the urine, more frequently in the late stages. Death takes place generally about the eighth day.

Treatment.—Destroy the patches with solid nitrate of silver, once or twice if necessary. It may be necessary to administer a large dose of calomel in the early stage; pencil the enlarged glands with nitrate of silver: follow first dose of calomel with aperients, till the evacuations are regular; fresh air, abundant food and stimulus, and especially after the sixth day *keep the patient flat*; give muriatic acid with chloric ether every few hours, or full doses of ammon. sesquicarb. (Dr. S. Monckton, in Medical Times and Gazette).—*N. Y. Med. Press.*

Insanity Among Negroes.—In Louisiana, the proportion of insane negroes is 1 in 2,477; in South Carolina, 1 in 2,999; in Massachusetts, 1 in 43; in Maine, 1 in 14; showing conclusively that freedom does not agree with an African's understanding.

The deaths among the Africans in New York, are twice as numerous as those of the whites in the same city. The number of the black popu-

lation in the West India Islands is steadily and rapidly decreasing. The disease from which the greatest mortality proceeds, is pulmonary consumption, arising, it has been suggested, from the want of adequate nutriment, in the most fertile section in the world, but which the African is too indolent to cultivate. It is computed that, at the present rate of diminution—a tenth part of the whole population every four years—the negro race will have almost ceased to exist in the British West India colonies, before the termination of another century.—[*Rich. Dispatch*, and *N. Y. Med. Press*.

Hernia.—*Wutzer's Operation.*—The needles in present use are too short, and apt to slip. They should be at least six inches long. The instrument should not be withdrawn at an earlier period than eight days, and not later than fourteen days. The instrument may be made of much lighter materials than usual, as malacca or bamboo cane, or metallic cylinders with a central tube for the needle. If within five or seven days no discharge of epithelium, fat, or serum appears from the invaginated scrotum, some preparation of cantharides, as the emp. or acet. lyttæ should be introduced. (Mr. E. Lister, p. 180.)

Radical cure of Femoral Hernia.—Several interesting cases of the radical cure of femoral and ventral hernia are related; they are the first attempted in this country. The mode of operating was the following: The patient being on his back, and the buttocks well raised, the hernia is returned, the little finger being carried well through the crural canal and femoral ring. A well-curved canula needle is carried on the finger, and its point made to press against the abdominal parietes; the needle is then thrust through them, and a silver wire being passed into the eye, it is drawn through. A small piece of vulcanized India-rubber, about the size of a split pea, is attached to the crural end, and fastened by means of a split shot; the other extremity is then passed through another piece of rubber about the size of a florin, and the two extremities drawn tightly together and fastened by a split shot. A portion of integument is thus drawn into the canal, and by an incorporation of this invaginated-plug with the borders and surfaces of the crural canal, the radical cure is effected. The wire may be loosened on the eighth or ninth day. From the cases related (six in number,) the conclusions arrived at are: that this is an operation "unattended with danger;" that "though the peritoneum be wounded (even in three places,) its perforation is innocuous." (Mr. R. Davies, p. 180.)—*Braithwaite's Retro.*

Hereditary Influences in the Production of Insanity.—Hereditary influences, striking as these often are, really exist in but a very small proportion of all the cases of insanity; and even where they do, the individual who is strictly mindful of natural laws, avoids excesses of all kinds, and is happy in his domestic and social relations, may be really much better off than those who lead a different kind of life, and yet have never known an ancestor to suffer from such an affliction.—*Dr. Kirkbride's Hospital Reporter*, and *Vir. Med. Journal*.

Formula for the Combination of Nitrate of Bismuth with Copaiba and Cubebs.—According to the observations of M. Caby, the nitrate of bismuth combined with balsam of copaiba and powdered cubebs, possesses the property of neutralizing the irritating effects produced habitually by these medicines on the digestive canal. The formula which is employed at the Hospital of St. Lazare is a mixture of equal parts by weight of balsam of copaiba, powdered cubebs, and nitrate of bismuth, with some essence of peppermint as a flavouring ingredient. This combination is said to be supported easily by the most delicate stomachs; there is no excitement, epigastric heat, or diarrhoea, so that the action of the medicines being entirely concentrated upon the genito-urinary passages, the desired results are more rapidly and easily obtained.—[*Bulletin Générale de Thérapeutique*, from *Brit. and For. Med. Chir. Rev.*]

Formula for a New Elixir of Pepsine.—The syrup of pepsine, recommended by M. Corvisart, not being capable of preservation for a long time, and the elixir of Garus having a disagreeable taste, M. Mailhe has invented a formula of pepsine associated with wine, alcohol and sugar, in sufficient quantity to conceal the peculiar taste of the ferment. The proportions are six grammes (about 3iss.) of amylaceous pepsine, twenty-four grammes of distilled water, fifty-four grammes of white wine of Lunel, thirty grammes of white sugar, and twelve grammes of spirits of wine. This elixir has a very agreeable taste, and women and children can take it with pleasure. It is administered immediately after each meal, in the dose of a tablespoonful, containing exactly the quantity of pepsine necessary for digestion, namely, one gramme (about fifteen grains).—*Ibid.*

On an Inexpensive Mode of Administering the Protoiodide of Iron.—The protoxide of iron has been given in the form of pills, syrup, or oil. The first two furnishes good preparations, but they are expensive, and as the treatment with iodide of iron often requires to be long continued, the poorer classes of patients are sometimes obliged to abandon its use. The mode of administration recommended by a Belgian pharmacist is by preparing a solution of iodide of iron in such proportions that one or two drops represent five centigrammes (about one grain) of the iron salt. This is preserved in a stoppered bottle, and some iron filings are added, in order to preserve it from decomposition. When the solution is to be used, one or two drops of it are poured either upon a piece of sugar or in a spoonful of water, beer, or gruel.—*Ibid.*

On the Combination of Iodine and Sulphur by the Medium of Oil.—The combination of iodine and sulphur having very little stability, M. Vezu, a pharmacist of Lyons, has proposed to combine the iodine and the sulphur by dissolving them each separately, beforehand, in oil of sweet almonds. The sulphur is heated in the oil until it is dissolved, but the iodine is dissolved in the oil while cold. The resulting compound has the taste and smell of heated oil, and has a chestnut colour.—*Ibid.*

La Charité.—MM. Andral and Rayer have resigned their positions as Physicians to this institution, which they had so long held with credit and honor.

Ipecacuanha and Delirium Tremens.—The jail physician of Chicago has had 100 cases of delirium tremens the past year, of which only four proved fatal. Of his manner of treatment, the doctor says—"Ipecacuanha, which I have tried in thirty-six cases, I found most remarkably successful, quieting the nervous system, exciting the appetite, acting on secretions, and uniformly producing sleep. When a case is not of too long standing, I give it as an emetic the first dose, and afterwards I give from 15 to 18 grains every other hour. Connected with this remedy, I use shower-baths, and let the patient drink strong beef-tea, without any alcoholic stimulants."—[*Newspaper*.]

Atropia in Tetanus.—The editors of the *Semi-Monthly Med. News* report the successful treatment of a case of tetanus with atropia, in doses of one-twentieth of a grain, repeated every third hour until narcotism was produced. They say, "So far as the illustration of its influence in the treatment of this case furnishes us authority for speaking, we are satisfied that our appreciation of atropine, as a remedy in tetanus, cannot be over estimated. It subdued time and again, with a promptitude and a measure of extent too striking to be mistaken, the increasing spasms, and soothed the general excitement of the system."—[*Ibid*.]

The Leniceps.—M. Mattie, presented very lately to the Academy of Medicine of Paris, an instrument for the extraction of the child, which differs from the ordinary forceps, by being very short, and by the branches locking upon a transverse wooden handle. The inventor considers that his instrument does not frighten the mother, as it may be used without her knowledge, and that it acts very gently upon the child. He therefore proposes to call it leniceps (leniter capiens,) in contradistinction to forceps (fortiter capiens).—*London Lancet* and *Vir. Med. Journal*.

Itching of the Anus.—There are few things more distressing and troublesome. Use the following ointment: Glycerine, one ounce; purified tar, half a drachm; and with the aid of heat, powdered starch, half an ounce. This makes an ointment of thin consistence, and easily spread. It dries up excoriations, checks exhalation, and dissipates slight cutaneous phlegmasiæ. Another preparation of pitch is the following: Cod-liver oil, two parts; oil of pitch, one part; used for itching and excoriations, as the other. (M. Gilbert, p. 185).—[*Braithwaite's Retro*.]

Mal-assimilation in Children.—Sometimes a pallid cachectic emaciated child will in a few days gain some pounds in weight, after the operation of a brisk cathartic. What explanation can be offered of this fact? If the intestines of such children be examined, the mucous absorbent surface will be found to be covered by a thick tenacious mucus, completely preventing assimilation of the chyle. A brisk cathartic, especially calomel, which may be combined with rhubarb and scammony, will wash this away, and the lacteals thus be left free to absorb the chyle, with which, for the first time they come in contact. (Mr. M. Henry, p. 264).—*Ibid*.

Anodyne Liniment in Otitis.—M. Trousseau recommends the following liniment in acute otitis, namely a mixture of the alcoholic extract of belladonna in water, with glycerine. A cotton ball, soaked in the mixture, to be placed in the external auditory canal.

Strange Provisions in a Will.—It was lately announced at a parochial meeting in St. Mary-le-bone, says the *Lancet* of June 25th, that Mr. William Kensett, a well known reformer of that parish, who died of cholera in Paris, had stipulated in his will that his body should be given up to one of the Medical Colleges of the metropolis, for dissection, and that his bones and remains should then be handed over to the Imperial Gas Company, on condition that they consumed them in one of their retorts.—[*Med. and Surg. Reporter.*]

Serous Bronchocele treated by Puncture.—The cystic variety of bronchocele is interesting from its rarity as compared with the hypertrophy of the thyroid gland.

A young woman was recently admitted into King's College Hospital, with a considerable enlargement of the thyroid, but mainly depending upon the presence of a cyst, which had been progressing for 15 years. The growth was prominent and well defined, soft and fluctuating.

Mr. Fergusson after giving chloroform divided the super-strata of tissue, and then the cyst, when out gushed a large quantity of dirty, brown-colored, serous fluid. The cyst was stuffed with lint, and compresses and bandage applied.—[*Ibid.*]

Condylomata.—In those raised patches of skin, known as mucous tubercles, or condylomata, existing about the verge of the anus, and around the genitals, but especially those which are wide spread and flat, the application of a powder, consisting of equal parts of savin and alum, will be found very successful in producing diminution of the swelling, and causing them to dry up.—[*Braithwaite's Retrospect.*]

Lepra Inveterata.—In the treatment of this most obstinate affection, much will be gained by a proper regulation of the diet. Bread, milk, eggs, and vegetables, as potatoes, water cresses, &c., should alone be allowed, and all alcoholic drinks avoided. A warm bath twice a week is of the greatest use. The medicinal means principally of use are, arsenic, bichloride of mercury, and iodine, for which the decoction of elm bark forms a good vehicle. An ointment containing calomel and pitch, is one of the best local applications. (Dr. Willshire, p. 230.)—[*Ibid.*]

Poisoning by Mercurial Vapor.—The *Pacific Med. and Surg. Journal* reports a case of mercurializing by being exposed to volatilized quick-silver, in the operation of burning it from the amalgam, which is the practice in the gold mines of California.

Gonorrhœa and Leucorrhœa.—In weak and lymphatic subjects, injections of the perchloride of iron have been tried with success, the proportion of the perchloride being twenty drops to three ounces and a half of water. (M. Demarquay.)—*London Lancet.*

SOUTHERN MEDICAL AND SURGICAL JOURNAL.

(NEW SERIES.)

Vol. XV.]

AUGUSTA, GEORGIA, NOVEMBER, 1859.

[No. 11.]

ORIGINAL AND ECLECTIC.

ARTICLE XXV.

An Essay on the Adaptation of Climate to the Consumptive, for a permanent residence ; embracing an Examination of the climate of certain localities of frequent resort ; and also, an Investigation of the degree of adaptedness of the Pacific Climates of the United States. Presented to the Medical Society of the State of Georgia, at its annual meeting, held at Atlanta, April 13th, 1859. By WILLIAM HENRY DOUGHTY, M. D., of Augusta, Ga. (Ordered to be printed.)

(Continued from August No. page 525.)

THE STATE OF OREGON, AND THAT PORTION OF WASHINGTON TERRITORY UPON THE COAST, AS CONTRASTED WITH THE COLUMBIA VALLEY.

IN the investigation of the climate of the Pacific slope, increased difficulties are met at every step, as we advance from California northward ; because none of those sections at which we arrive seriatim, have been occupied sufficiently long to admit of a full comprehension, much less a correct appreciation of their meteorology. Hence, any attempt at their elucidation must be liable to error, as it is based to a great extent upon those generally recognised, and controlling physical laws in their various climatological bearings, which have been already adverted to in this essay. Guided then by these laws, and such of the develop-

ments of the special climate, as have been made, we shall endeavor to present, as lucidly as possible, those of the meteorological features of this portion of it, which influence a residence of the consumptive there.

One would suppose, that really the differences between California, and the State and Territory north of it, excepting those due to latitude, would be so small and insignificant, as not to require elaborate exposure. And, there is much plausibility in the idea, when regarded in reference to the general investigations of promiscuous writers; but when viewed in connexion with a special examination of its adaptedness to invalids of peculiar habits, and requiring certain peculiar, unchanging meteorological surroundings, we cannot but feel justified in the attempt, to expose as thoroughly as possible, its meteorological conditions. Here local conditions, not general ones, are to be enquired into, and in order to their study, some degree of minuteness must be descended to.

In the advance up the Pacific slope from California, we observe a continuation of the same general mountain features, yet these undergo differences both in the mode of their arrangement, and in the degree of their influence upon climate. The Cascade mountains, the prolongation of the Sierra Nevada, preserves, by its almost perfect parallelism with the coast, its great height, its precipitous and abrupt sides, and its power to modify climate upon the right and left, all of the general features of the latter range; yet from a simple change of position somewhat nearer the coast line, it presents manifest differences in the neighboring climate, since it extends the western limits, of the arid and bleak interior, and increases the relative humidity of the coast.

Greater alterations mark the northward extension of the Coast Range of California. Having approached the boundary line between the two States, it is apparently broken down in all effort at continuity, resolving itself into an irregular plateau region. And it is not until after having been thus broken down, that we observe it rising again about the central line of latitude of Oregon, possessed of sufficient dimensions to alter the phases of climate. From this point to beyond the Columbia River, it presents the character and appearance of a range

of small mountains. Another noticeable distinction which results from the respective changes of these two mountain ranges, is the destruction of that great valley formation between them, which characterizes the topography of the State of California. From the point of reappearance of the Coast Range, to the Columbia River, and between the two systems of mountains, there is an imperfect valley formation, the Willamette Valley, the meagre representative of the great conjoined valley to the south, whose impressibility of climate is not to be compared with the latter.

Looking to the interior, we also descry some differences in local topography worthy of notice. Here, the great Columbia with its forming streams, the Lewis and Clark Rivers, embracing within the limits of their origin, the entire extent of the territory to the Rocky mountains, instead of seeking a southern outlet, as does the Great Colorado River, assumes at the centre of the area, an almost due-west direction to the Pacific, passing through the Cascade Range. Again; near the junction of the Sierra Nevada, and the Cascade Range, there is a mountainous extension almost at right angles to them, which reaches across Washington Territory, nearly to the Rocky mountains. The Blue mountains of Oregon are also connected with this latter branch, and they together constitute that elevation of the southern part of the territory, which both yields the precipitation of the Lewis or Snake River, and determines a northward flow of its waters.

Besides these, there are material differences in the altitude of different parts of this interior. Its southern part continues the great elevation of the plateau of the Great Basin, but towards its centre, the altitude greatly diminishes to about eight hundred or a thousand feet, with inclined planes extending to the surrounding mountain bases. In this central depression is the junction of the two rivers already mentioned, the point at which the Columbia River is formed.

A remaining field for an inspection of local differences of climate, is the circulation of the Pacific waters. We have seen that the distinctiveness of the climate of California is to a great extent attributable to a peculiar circulation of the ocean itself. Wherefore we are led to enquire whether similar peculiarities

do not mark that off the coast of this section of the western slope, or whether the same mode of circulation prevails here also. The importance of examining this feature, will appear as we advance. We may therefore ask, do the cold masses or currents of water, found prevailing along the coast of California, extend as high up as the State of Oregon? or in other words, what is the most northern point on the coast touched by this mass of water?

From the few authors which it has been our privilege to examine on this subject, it is impossible to fix definitely, either the exact place of origin, the northern or northeastern line of limit of this cold current, or to define its specific width. Indeed whilst they have at an early period detected the presence, and recognised the influence of some such controlling climatological agent, as evidenced in the singularly mild and uniform temperature of the southern part of the coast; in the variations of the summer distribution of heat, in the advance up the coast; and also in the differences of the entire coast, as compared with the west of Europe, (its want of analogy); yet beyond the mere differences of the absolute temperatures of the waters off the Californian coast of the winter and summer, little or nothing is known. They speak of it in general terms, as originating somewhere "northward and westward from San Francisco," and "westward of Alaska," and recognise "the existence of a general movement from the northwest," but do not attempt to fix its limits, or to particularize its dimensions.

To one in our present line of study, it is a matter of deep regret, that the northeastern boundary line of this summer current, has not been accurately pointed out, because wherever along the coast it is found to prevail, it exerts a direct influence, both upon the temperature and humidity of the land atmosphere, which it cannot exercise indirectly, or by mere proximity to it. This difference of its effects, authors generally need not enquire especially into, because the results at which they aim, are general in their nature, and tend only to the elucidation of general facts. But when, as in the present case, those local, but distinguishing features of climate, which are often observed between places and localities, even under the same parallel of latitude, or it may be upon the same meridian

of longitude, are to be exposed, a specific designation of the dimensions, and the degree of access of such currents, is absolutely necessary, since their effects upon land climates are in direct relation with them. Hence the necessity for an endeavor on our part to give this current other than a general signification and location.

All perhaps agree that the reduction of the summer temperature along the Pacific, from thirty to fifty degrees of latitude, which so greatly distinguishes it from the western coast of Europe, is due to a great extent to the operation of this mass of water. But their writings tend also to the presumption that the effect upon at least one-half of this extent, namely from forty to fifty degrees, is more or less indirect, and is not effected by direct contact of the waters with the shore.

Mr. Blodget says, (page 195, *Climatology of the U. States*,) "apparently an immense cold current approaches the coast here at thirty-five to forty-five degrees of latitude, which in summer exercises a wide and decisive influence on all the included coasts, its maximum and central point being nearly at San Francisco." Again he remarks; "but the refrigerating current appears to originate westward of Alaska, and to *pass nearly due southeast* from that point toward the continent in the latitude of Monterey; not entering the indentations of the Russian and British American coasts, probably in any degree," (See page 278.) But in another place, (page 261) this author, while treating of the distribution of heat for the spring, uses the following significant language: "for the mean of the three months, the sea-temperatures observed off this coast,* (Pacific,) are strikingly uniform, and they show but little if any advance on those of winter. *For some hundreds of miles on the fortieth parallel, there is little difference in the sea-temperatures, for the entire year*; and in spring, such observations as we possess, show them to be quite the same between the thirty-fifth and fortieth parallels, for thirty degrees of longitude westward from San Francisco." Yet again, he says; "a portion of the coast of Oregon has temperatures noticeably higher. for the brief period of the record there, which may perhaps prove the *position of the cold line to be a little distance off that coast at sea*," (See page 275.) Moreover, he as-

* The parenthetic word is our own.

serts, that "the cold current is a comparatively narrow mass at the point of its rising on the coast, and evidently is not felt north of the forty-fifth parallel." (See page 118.)

These quotations are sufficient to show, that this writer was unable to designate the precise point at which the northern edge of this current impinged against the continent, nor indeed to indicate the exact direction of its northern boundary towards the place of its origin. To say the least, they were not well appreciated by him, for some of his remarks are somewhat contradictory of each other on these points. To this, however, we would attach no censure, for the generalized facts of climate as sought to be developed in the scope of his work, required only the knowledge of the existence, and the demonstration of some such controlling refrigerating agent, without regard to any definite size, and treated of it only in its relation to the entire continent. Hence there was no need of greater specification, than has been given to it.

Now with a view of attempting to fix the northernmost point at which this current touches the coast, amidst the obscurity with which it is surrounded, we propose to ascend the coast from San Francisco, and observe the distribution of heat, with its differences of degree, at such places as have it recorded. It must not be forgotten, however, that it is not necessary, that direct contact of the cold waters with the shore should be had, in order to refrigerate, or to reduce the mean of its temperature distribution. For, simple proximity, with a general atmospheric circulation, and other contributing local peculiarities, as heated plateaus, valleys, etc., may produce such a degree of refrigeration as is scarcely transcended by an immediate contact: For example, if we suppose the northern limit of this current, to be in a direction due southeast from the peninsular point of Alaska, and to impinge against the western coast at the fortieth parallel of latitude, we would not expect its influence upon that coast, to be limited to that south of the point of contact, but on the contrary, would look for it many degrees farther northward. Moreover, the direction of the winds which blow over and about that mass, would deeply affect the result, since they must inevitably carry away with them the attendant cold surface atmosphere. An analogous instance has already been

mentioned in this paper, in the character of the atmosphere induced by the prevalence of easterly winds along the Atlantic coast for a few days, during which the air is rendered "sultry, oppressive, and heavy," by a transfer of these conditions from the Gulf Stream.

The first post that we meet in the ascent of this coast, is Fort Humboldt, lat. $40^{\circ}.46'$, near Humboldt Bay, California, and eastward two miles from the sea. "The locality is a plateau of slight elevation, fronting the Bay, and fully open to the Pacific." About a hundred miles interior to this, is Fort Jones, lat. $41^{\circ}.36'$, having a location "not closely confined, though with high mountains on the south and east."* The first has an altitude of fifty feet, and the second an altitude of two thousand five hundred and seventy feet. The next station is Fort Orford, in Oregon, lat. $42^{\circ}.44'$, situated upon a bay with a direct exposure to the ocean.

The last that we shall introduce to the notice of the reader, is Fort Astoria, lat. $46^{\circ}.11'$, situated on the "south bank of the Columbia River, near ten miles from the coast of the Pacific. The locality has a free exposure over water surface and low plains, to the sea, with rough hills at the south and east."

MEAN TEMPERATURES.

	MAY.	JUNE.	JULY.	AUG.	SEPT.	OCT.	Sum'er.
San Francisco, Cal.....	55° 29	56° 86	57° 90	57° 22	58° 26	57° 91	57° 33
Fort Humboldt, "	53° 94	58° 04	56° 71	57° 00	57° 02	53° 00	57° 70
Fort Jones, "	54° 69	61° 56	71° 56	68° 66	62° 72	51° 84	67° 26
Fort Orford Oregon,.....	54° 80	59° 03	59° 73	61° 09	58° 91	54° 88	59° 95
Fort Astoria, "	55° 00	59° 53	61° 55	63° 76	58° 13	55° 45	61° 58

Bearing in mind, that the maximum effect is produced at San Francisco, the degree of refrigeration should diminish as we proceed northward. We have placed the posts in the above table, in the order of their succession along the coast. Comparing the first two posts, we find, notwithstanding the difference of latitude, ($2^{\circ}.58'$,) that they manifest great parallelism in the mean monthly distribution of heat. Indeed there is an identity of the temperature statistics, which points unmistakably to the same active, operating agent at both places. Nevertheless

* We have taken the descriptions from the Army Met. Register.

at Fort Humboldt the sea influence does not indicate that intensity of operation, which was noticed at the former station; for Fort Jones, one hundred miles in the interior, shows no appreciable effect from this cause. In other words, it does not penetrate so far into the interior as in the more southern part of the State, but limits itself to the immediate coast. Its mean temperatures for the summer months are much higher, than those of either of the preceding posts, and its mean summer temperature is fully ten degrees (10°) greater. It presents in the course of the mean temperatures then, more of the ordinary manifestations of interior localities of similar altitude. This confinement to the coast may be accounted for by reference to the absence of the San Joaquin and Sacramento Valleys, with their furnace-like temperature.

Examining the next in the table, Fort Orford, whose situation upon the immediate coast, and direct exposure to the ocean, makes it a true exponent of the measure of refrigeration at this latitude, we remark an elevation of two and sixty two hundredths degrees, ($2^{\circ}.62$) per month for the summer season over San Francisco; and a monthly average of two and seventy hundredths degrees, ($2^{\circ}.70$) over Fort Humboldt. Adding September to the three summer months, and taking the average increase per month, it stands two and thirteen hundredths degrees, ($2^{\circ}.13$) over the first; and two and forty-nine hundredths degrees, ($2^{\circ}.49$) over the second. Looking also at the mean summer temperatures, that of Fort Orford is two and sixty-two hundredths degrees, ($2^{\circ}.62$) higher than that of San Francisco; and two and twenty-five hundredths degrees, ($2^{\circ}.25$) higher than that of Fort Humboldt.

The last post of the table, Fort Astoria, situated near the mouth of the Columbia River, latitude $46^{\circ}.11'$ N., shows a still higher elevation of temperature over these two places, the mean monthly increase over them for the summer months, being four and twenty-eight hundredths degrees, ($4^{\circ}.28$) over San Francisco; and four and thirty-six hundredths degrees, ($4^{\circ}.36$) over Fort Humboldt. Adding September to those months, we have as the monthly average of increase for the four months, three and eighteen hundredths degrees, ($3^{\circ}.18$) over San Francisco; and three and fifty-five hundredths degrees, ($3^{\circ}.55$) over Fort

Humboldt. Its mean summer temperature is four and twenty-five hundredths degrees, ($4^{\circ}.25$) higher than that of San Francisco; and three and eighty-eight hundredths degrees, ($3^{\circ}.88$) higher than that of Fort Humboldt.

Let us recapitulate; from San Francisco, lat. $37^{\circ}.48'$, northward $2^{\circ}.58'$ to Fort Humboldt, we observe a continuation of the same reduced monthly mean temperatures, with a strict parallelism throughout the dry season. To this point, the refrigerating influence appears to be about the same. Progressing $1^{\circ}.58'$ farther northward to Fort Orford, we observe a sudden and material increase of $2^{\circ}.70$ per month, over Fort Humboldt for the summer season; and from June to September, an average monthly increase of $2^{\circ}.49$; also a higher mean summer temperature by $2^{\circ}.25$. Then continuing $3^{\circ}.27'$ farther up to Astoria, we have an elevation of $1^{\circ}.66$ per month, over Fort Orford, for the summer; and a monthly average of $1^{\circ}.05$, from June to September. Hence we see within a distance of two degrees of latitude, a sudden elevation of temperature amounting to $2^{\circ}.70$ per month for the summer. And within five and a-half degrees of latitude, a mean monthly elevation of $4^{\circ}.36$ for the summer over Fort Humboldt, and a difference in the summer means of $3^{\circ}.88$. To what may this difference of temperature within so short a distance be attributed?

Now perhaps we are better able to locate the northern edge of this cold current, and to appreciate the point near which its direct effects cease, and where those of simple proximity begin. Fort Humboldt certainly falls within the range of its region of contact, for the slight and mere nominal differences that exist between it and places five or six degrees of latitude farther south, afford positive proof of the fact. That it extends any distance above this point, is exceedingly problematical, for an advance of not quite two degrees of latitude, gives a much greater difference of temperature, than has been noted for at least six degrees south from that point. And advancing five degrees from this point, such differences are observed as point to an almost entire absence of its influences, direct or indirect. It is likely that its proximity to the coast off Fort Orford, largely affects its temperature distribution, and prevents the more material and increased differences, which would otherwise occur between it and Fort

Humboldt. Besides if we take as strictly true the remark of Mr. Blodget, that this cold current passes "nearly due south-east," from the point of the peninsular of Alaska, and estimate its breadth at seven or eight degrees of longitude, (the distance westward from San Francisco, which gives the reduced mean temperatures); and establish its probable northern line of limit by this assumed direction and width, it will appear to approach the United States coast, somewhere between Forts Humboldt and Orford, latitude $40^{\circ}.46'$ to $42^{\circ}.44'$. We do not presume that this northern boundary is as distinct from the waters beyond it, as some may suppose, or even as distinguishable by the thermometer, as the Gulf Stream is by the eye from its cold banks. Yet if it can be represented by a straight line, that would, we are led to believe, extend from the point of Alaska to the western coast, at or about latitude 41° N. This then would bring within the scope or direct range of this current, but an extremely small portion of the coast of Oregon, and as has been intimated, prove "the position of this cold line to be a little distance off" at sea.

Deeming this short and imperfect notice of these surface peculiarities, and the differences of conformation, together with the difference of the external or oceanic influences, found operating upon them, sufficient to show the necessity for a separate, careful, and extended investigation of the climate of this State and Territory, we now pass to a notice of the general climatological features of each locality. The entire area included, extends from latitude 42° to latitude 49° N., and embraces about 15° longitude at its greatest width, and 11° at its narrowest. The extent of surface thus embraced, amounts to about three hundred thousand square miles. The two great ranges of mountains that are found, the one upon the right and the other upon the left, are most remote from each other at the southern boundary, and in their northern course gradually approach each other; so that having arrived at the northern limit of Washington Territory, they are nearer to each other by at least four or five degrees of longitude. The Cascade Range upon the left, runs almost entirely parallel with the shore line, which has here a somewhat north-by-east direction; whilst the Rocky Mountains on the right, have assumed a direction a little to the west-of-north. Hence, as actually

occurs higher up in British America, these ranges appear gradually to run into each other. Both are continuous in their character, and each presents a single interruption in its course, namely, the South Pass of the Rocky Mountains, and the perforation of the Cascade by the Columbia River in its course to the Pacific. They seem to be providential, as if to facilitate transit across them, and establish relationships between the two sections on either side.

This disposition of the mountain systems, reproduces the divisions adopted in the first clause of our subject, namely the coast and the interior, and it is in this way, that we propose to treat of it. The coast is a continuation of that of California, and differs from it only in point of latitude, the extent of its valley formation, and its width. It will be recollected that the average in the middle parts of the latter is, one hundred and eighty miles, and in the northern parts two hundred miles. Here, however, we suppose that the average width, which is about the same all the extent of it, is perhaps between one hundred and twenty-five and one hundred and fifty miles. The coast comprises a part of the State of Oregon, and also a part of Washington Territory. The extreme south of this coast is an imperfect plateau formation, and those few small streams that are formed by the precipitation at this point, find a quick outlet between the hills into the Pacific. About the centre of this coast line, the Columbia River discharges its contents into the ocean, having passed through the Cascade Range seventy or eighty miles to the east. Between these two points, and the two parallel ranges, on the ocean side, is the Willamette Valley, the only attempt at an analogous valley district with that of California. It has a northern declivity, and takes its name from the river of the same name, which empties into the Columbia, probably fifty or sixty miles from its mouth. North of the Columbia River, no peculiarities occur worthy of special mention.

Of the interior, which comprises all that expansive area northward from Utah to the British possessions, and enclosed between the Rocky and the Cascade Ranges, we shall treat under the head of the Columbia Valley. It constitutes the northernmost part of that interior basin, which Baron Humboldt declared to be "the broad, undulating, flattened crest of the chain

of the Mexican Andes, and is not the swelling of a valley between two mountain chains."*

With slight differences in degree, the same general characters which were remarked in the Great Basin of Fremont, are here repeated, or rather continued. There is a similar aridity of soil and of atmosphere; beds of alkaline earths, and salt lakes are still to be seen; a corresponding scarcity in the amount of precipitation; scattered ranges of mountains here and there; the same vegetable productions, namely, the artemisia and the cactus, the sure exponents or indicators of a soil and atmosphere, unsuited to the cultivation of the higher forms of vegetation; and finally, there are similar changes of temperature, accumulated heat in the day and as excessive cold in the night, thus making an extreme daily range of the thermometer the rule, and not the exception. Periodicity, according to Mr. Blodget, still marks its seasons, although he asserts that more or less rain may fall all the year round. Near the junction of the Sierra Nevada, with the Cascade Range, there is a mountainous extension almost at right angles to them which reaches nearly across the valley to the mountains on the right; farther interior but connected with this lateral arm are the Blue Mountains of Oregon; and in the east from the lateral projection of the Rocky Mountains, is an offshoot, the Bitter Root Mountains, which juts out into the eastern part of this valley. It is within the area enclosed by these latter ranges, that is found the southern head of the Columbia River, the Lewis or Snake River, whose transit through this region is secured by those mountain gorges, denominated canons by the Spaniards, and which also characterize the entire plateau regions.†

Special Climate.

It would be entirely superfluous to dwell here upon the general features of the spring climates, after all that has been said in connexion with the general climate of the Pacific slope. Those most interesting to us have been already noticed in the investigation of the climate of California and its contigu-

* (Aspects of Nature.) See Blodget, page 113.

† "The Colorado of California and its great branches, the Grand and Green Rivers, traverse these gorges through their whole course to within three hundred miles of the sea." (Blodget.)

ous Territories, and also under the general consideration and comparisons of it with the eastern slope, and the southern of Europe. The variability of the coast here is greater than that of California. Along the coast the rate of advance from month to month is much more gradual than in the interior,—the differences of alternate months, being scarcely greater than those of the succeeding months. At Fort Orford, on the southern part of this coast, the least difference in this monthly advance is noted in the passage from March to April, and the greatest from May to June. At Fort Vancouver, an intermediate post in the north of the Willamette Valley, these observations are reversed, the greatest difference being from March to April, and the least from May to June. Greater uniformity of advance, for the entire season, as far as the record at present extends, although quite extreme in degree, is found at Fort Dalles, on the Columbia, in the interior, than to the west of the Cascade Range. And compared with Fort Defiance, its analogue in the territories to the south, it is both more mild and less extreme; for the mean monthly advance there is $8^{\circ}.56$, whilst here it is only $6^{\circ}.88$. But the spring features of the coast, are placed in decidedly the most interesting view, when contrasted with corresponding ones for the coast lower down. Making due allowance for the difference of latitude, the accessibility of each to oceanic influences is the same, therefore the differing results at each of the places indicate distinctive differences in the character of those oceanic influences. On the coast of California, both at San Francisco and at Fort Humboldt, some distance farther northward, there occurs in the passage from April to May an actual retreat in the position of the mean temperatures, instead of an advance, which we have attributed to an increasing intensity of action of certain cold currents of the ocean, found prevailing at that time. At Fort Orford, however, a progressive advance is observed, which can only be brought about by a diminished effect of those controlling sea-temperatures. Hence that degree of refrigeration which is observed along the former coast is not experienced here, being only subject to the ordinary influences of sea-coast localities generally. This, of itself, is collateral proof of the position we have assumed in regard to the course and direction of the cold waters off this coast, for from Fort

Humboldt, south five degrees of latitude, their influence is such as to subdue or overwhelm the ordinary continental influences by reducing the mean of May below April, and in the middle of the dry season, that of August below July. So that twice during the dry season, this inordinate reduction of temperature happens, and indeed it is not improbable that the same effect would be produced as far south as San Diego, if it was not for the mere latitude of this place, and their own increase of temperature in their course southward. Certainly if they extended as high up as Fort Orford, with latitude in their favor, they ought to manifest at least an equal degree of influence. Their withdrawal, on the other hand, produces greater abruptness, and a greater increase of temperature for the season, than at the south.*

Upon an inspection of the general range of the monthly mean temperatures for the entire region, the Willamette Valley shows the greatest variation in their relative position: the range for March transcends largely that of the far interior post in New Mexico, namely, Fort Defiance, and equals many of those variable posts in the southern part of the eastern slope of the United States, and around the Gulf. Even posts in the Columbia Valley, as Fort Dalles, present a much fairer record, for the mean range for the season there is only $3^{\circ}.84$, whilst here it is $8^{\circ}.09$. The coast, however, as usual, presents by far the least variation in this respect, for the greatest range is only $4^{\circ}.52$, which took place in May; and it has an average for the season of only $2^{\circ}.91$. Indeed for the limited period of observation here, the coast of Oregon, as exhibited in the range of the monthly mean temperatures at this post, is superior to that of California. For March here gives a difference between the highest and lowest means of only $3^{\circ}.31$, whilst at San Francisco it is $6^{\circ}.82$: and the mean of the entire season is only $2^{\circ}.91$, that at the latter place, being $3^{\circ}.76$. This superiority

* It is as well to state here as elsewhere, that the temperature of the waters off this part of the Pacific coast, are perhaps of a more or less uniform temperature all the year round, and also that the waters themselves constitute a part of the same current which has been seen to prevail during the wet season of California. If so, they are probably at or about the same temperature of the latter. So that we have at this point, and doubtless farther northward also, an unchanging temperature of the sea at all times.

may be attributed to the uniform temperature of the seawaters, which secures a regulation in the advance of temperature for the season, and a mitigation and moderation of continental influences. At the south at this time, the currents are shifting and substituting; hence greater abruptness in the monthly advance. The proximate cold masses cannot exert any influence here, until their full sway is established below, and the heat and rarefaction of the plateaus and valleys of the interior, attract their atmosphere inland.

The extent to which the thermometer may fluctuate throughout this area, as indicated by the extreme single monthly observations, can, at the present time, be only approximative of the constants. The freezing point may be attained at any part of it, and the lowest recorded point is about nineteen degrees (19°) at Fort Vancouver. Low down upon the coast, it is always reached in the month of March, although the few records furnished do not show its occurrence during April and May. The degree of cold experienced at Fort Orford during the months of March and April, is greater than at San Francisco, although their possible ranges of the thermometer do not indicate that extent of fluctuation in temperature, which is observed at the latter place. The possible range here for March, is two degrees (2°) less than at San Francisco; that of April is fourteen degrees (14°) less; and that of May is just equal to it. These cannot be taken as altogether reliable, for the observations of a single year are not sufficient, nevertheless they give a foreshadowing of their probable temperature statistics.

As we recede from the shore line towards the Cascade Range, the extremity of these observations rapidly increases. In the Willamette Valley, at Fort Vancouver, the possible range of the thermometer for March is increased over that of Fort Orford, fifteen degrees (15°); and over that of Fort Astoria, thirty-three degrees (33°); the lowest at Fort Orford, being nine degrees (9°) greater, and the highest six degrees (6°) less; and at Fort Astoria, the lowest is eleven degrees (11°) higher, and the highest is twenty-two degrees (22°) less. April, however, in this valley is not so extreme, the two extremes manifesting a tendency to come together; yet the highest for the month, is ten degrees (10°) higher than at Fort Orford on the coast, and its

lowest is nine degrees (9°) less, so that, the possible range for the month, remains nineteen degrees (19°) greater. Moreover its possible range is seven degrees (7°) greater than that of Fort Astoria, for the same month. The extremes here for May are excessive, extending from the frost point to blood heat. The highest at Fort Vancouver for three years; was ninety-eight degrees (98° ;) and the lowest, thirty-nine (39° .) There is an increase of twenty degrees (20°) over the highest of April, and eighteen degrees (18°) over that of March; whilst the lowest is eight degrees (8°) higher than that of April, and eighteen degrees (18°) higher than that of March. The possible range for the month, however, is only equal to that of March, and is twelve degrees (12°) greater than that of April. The highest single observation recorded throughout the entire section at this season, occurred at this post. It is eighteen degrees (18°) higher than the highest of the coast, and four degrees (4°) above that of the interior station, Fort Dalles. It also approaches those extraordinary records* for this season in the San Joaquin Valley.

Looking now to the far interior, we find at Fort Dalles smaller differences between it and the coast, than between the latter and the Willamette Valley. When compared with Fort Defiance, in the first part of this essay, it shows a much higher attainable degree of heat, and more conservatism in its distribution.

Winds and Weather of Oregon and the Columbia Valley, for the Spring Season.

No more striking contrast of the two sections of coast, examined in this essay, could be exhibited, than is found in a comparison of their mode of circulation of the atmosphere. If the changes in the temperature manifestations between San Francisco and Fort Orford are great those in the circulation of the atmosphere are greater. At the former place, throughout the season, winds from the south and west were in the ascendancy, although of the single winds, those from the northwest were oftenest observed, and increased in force and prevalence with

* In May 1852, at Fort Miller, the thermometer reached the enormous height of 113° .

its advance. At the latter,* the southwest and west winds, during the month of March, were rarely recorded, and during the remaining two, no record whatever is made of their prevalence, except of the west wind, once in May. Winds from the north, southeast, and northwest, were prevalent throughout the entire season, and of these no particular one maintained a uniform ascendancy. Those from the southeast, were by far the most forcible; those from the northwest next, although the latter greatly increased in strength with the advance of the season.

Advancing still higher up to the mouth of the Columbia River at Fort Astoria, there are other recognizable differences. During March, there was no particular circulation; winds from all points were recorded, those however, from the east and southwest, were the predominant single ones. In April and May, the south and west winds were ascendant, and of the single ones, the southwest and northwest. Here then, a partial restoration of that along the southern coast of California occurs. Whence the difference of circulation at the intermediate coast station, Fort Orford? Why, an almost complete reversal here? Is it attributable simply to local peculiarities of configuration, or has it some connexion with those occurring differences of temperature, and of circulation of the sea-waters near it? These are interesting questions at this juncture, and will require for their answer a longer period of observation. At Fort Vancouver, great irregularity exists as to the prevalence of the winds. In March, during four years' observations, the north and east winds were most numerous, those from the east and southeast predominating. In April and May, the south and west were ascendant, but during the latter, the north-west was frequently recorded.

Repairing to the interior at Fort Dalles during two years, we find the same general features, that were stated as belonging to Fort Defiance. But between it and the coast stations, especially Fort Orford, there is great dissimilarity. The south and west winds were always in the ascendancy and the southwest and west of the single ones.

* This remark is based upon the observations of a single year, and are therefore of little reliance; but they are sufficient to show, that the course of the winds off the Californian coast does not extend to all parts north of it.

Of the weather, the subjoined table affords a sufficient exposition.

	MARCH.				APRIL.				MAY.			
	Fair.	Clo'dy	Rainy	Sno'y	Fair.	Clo'dy	Rainy	Sno'y	Fair.	Clo'dy	Rainy	Sno'y
Fort Orford, Oregon, (1 year.)....	10.	21.	13.	1.	6.	24.	19.	0.	14.	17.	8.	0.
" Vancouver, " 4 "	11.7	19.2	10.	2.5	10.7	19.2	10.7	0.	19.7	11.2	4.	0.
" Dalles, C. Valley, 2 "	19.5	11.5	3.5	3.0	20.0	10.0	8.0	0.	26.5	4.5	2.5	0.
" Astoria, Oregon, 1 "	11.0	20.0	19.0	0.0	10.0	20.0	16.0	0.	10.0	20.0	16.0	0.

The respective means for the same season are, as follows:

Fort Orford,—Fair 10.0—Clo'dy 20.6—Rainy 13.3—Sno'y 0.3
 " Vancouver " 14.0— " 16.5— " 8.2— " 0.83
 " Dalles, " 22.0— " 8.6— " 4.6— " 1.00
 " Astoria, " 10.3— " 20.0— " 17.0— " 0.0

Along the coast, the number of fair days for March and April, as compared both with the interior post, and with those on the coast of California, is greatly diminished. For the three stations, there is about an average of ten fair days for March, and eight for April; and of cloudy days, an average of twenty for March, and twenty-one for April. Here also the proportion of rainy days, as compared with the cloudy, is very large, there being an average of fourteen rainy days in March, and fifteen in April. At Forts Orford and Vancouver, for May, there is a decided increase in the number of fair days, and a diminution in both cloudy and rainy days. At Fort Astoria, however, the same general features are noticed throughout the season. The greatest number of fair days are recorded at Fort Dalles, and they steadily increase with the advance of the season; whilst the others decrease. The respective means for the season, show nearly three times the number of rainy days at Fort Orford, that there are at San Diego, and nearly twice that of San Francisco. Fort Astoria gives three and a half times the number at San Diego, and two and a half times that of San Francisco. We may add here also, that although there is a large proportion of cloudy days recorded of the latter places, as the mean for the season, yet the number of rainy days is scarcely one half of them; whilst along the coast of Oregon, the latter have increased to about two-thirds the former.

Rain in Inches.

At Fort Orford, the monthly means are as follows: March, 8.24 inches; April, 5.64 inches; May, 5.24 inches; the mean for the entire season is 19.12 inches. At Fort Vancouver, as follows: March, 3.79 inches; April, 2.74 inches; May, 2.75 inches, with a mean for the season of 9.28 inches. At Fort Dallas, as follows: March, 1.07 inches; April, 0.99 inches; May, 0.57 inches; and of the season, 2.63 inches.

As we advance up the Pacific coast, the duration of the wet season increases to such an extent, that the dry season cannot, strictly speaking, be said to commence until the summer months are reached; and if we should continue our advance to Russian America, and thereabouts, so great an encroachment would be found to be made upon the latter as to obliterate it, this being a region of almost constant precipitation. The amount of precipitation also increases rapidly with the latitude; the mean quantity for the spring at San Diego, is 2.74 inches; at San Francisco, 8.81 inches; and at Fort Orford, 19.12 inches; an increase of 16.38 inches in ten degrees of latitude, which is about 1.63 inches to every degree of latitude. As we recede from the coast, the degree of precipitation declines, that at Fort Vancouver for the season, being only one-half, and across the Cascade Range, the proportion is reduced to about one-seventh that at Fort Orford.

ARTICLE XXVI.

Fracture of the Neck of the Scapula. By L. A. DUGAS, M. D.,
Professor of Surgery in the Medical College of Georgia.
(Read before the Medical Society of the State of Georgia, at
the meeting in April, and ordered to be printed.)

At the annual meeting of this Society in 1857, I had the honor of reading a paper "Upon Fractures of the Scapula, with Cases, &c." which was ordered to be published. It accordingly appeared in the pages of the Southern Medical and Surgical Journal in June of that year, and although well received by the profession in general, I am sorry to say that it did not altogether escape the notice of one of those writers of "Biblio-

graphical Notices" who seem to think their only duty to find fault with the papers placed in their hands, even at the expense of justice. The disingenuous perversion of quotations and inferences in the "notice" to which I refer, cannot fail, however, to be detected by any one familiar with the subject, and therefore needs no refutation in this place. With your permission, I will now read the history of another instance of Fracture of the Neck of the Scapula, which came under my observation since the publication of those to which I have just referred. My apology, if any be necessary, for bringing this case before you, will be found in the fact that injuries of the shoulder-joint are often so obscure that, although they have been long studied by able and experienced surgeons, their diagnosis is still the subject of controversy. In the absence of post-mortem confirmation, we have to rely principally upon the accuracy with which symptoms are investigated and detailed.

On the 9th of May, 1858, Mr. Partlow, of Abbeville District, South Carolina, brought to me for consultation his negro boy, Lewis, between six and seven years of age, well formed and well grown. Mr. P. stated that about two months before, the boy, while at play in the woods, was stricken down by the falling of a tree, one of the limbs coming down upon his left shoulder. The direction in which the blow was received was not known, but upon approaching the boy he found him rational, and was told that he had not lost his consciousness at the time of the accident. There was no evidence of injury to the head, nor any where else than in the shoulder. The boy complained of his shoulder, and said that the pain was also very great in the arm, the ability to move which was entirely lost. Upon feeling the pulse, it was found much more feeble in the left than in the right limb, and the temperature of the injured arm was lower than that of the other. In handling the limb and shoulder Mr. P. detected nothing like crepitation, and therefore concluded that there was no fracture. Swelling supervened in the shoulder, soon after, accompanied with great pain in the arm down to the elbow, but none below this. At the end of ten or fifteen days the swelling had disappeared, the shoulder was flattened and seemed to droop, but the pain in the arm continued much longer.

Cold water dressings, and subsequently stimulating frictions,

constituted the treatment to which the patient had been subjected prior to my seeing him.

Examination.—By causing the boy to stand erect before me, with his chest bare, the left shoulder appears drooped, emaciated and very much flattened. The deltoid muscle feels loose and flabby, as though in a state of atrophy. This is not so perceptible in the other muscles connected with the shoulder; yet the supra-spinatus, infra-spinatus and pectoralis major are evidently smaller here than on the other side. The acromion process projects in a sharp angle, and the head of the humerus is depressed about three-fourths of an inch; but may be easily replaced by pushing up from the elbow. The left hand can be carried upon the right shoulder while the elbow rests against the thorax, thereby precluding the idea of a dislocation properly so-called.

By grasping the head of the humerus, which is distinctly felt, with one hand, and rotating the lower end of the bone with the other hand, it is found that the head moves continuously with the shaft, and without any crepitation whatever. There is therefore no fracture of the humerus at any point.

By placing one hand upon the shoulder so as to fix the body of the scapula, the acromion process and the clavicle, at the same time that various movements upward and laterally are imparted to the humerus, very distinct crepitation can be perceived in the shoulder-joint. Crepitation is also distinctly induced by grasping the head of the humerus with the ends of the fingers resting upon the margin of the glenoid cavity in the axilla, where it is easily felt in this case, and moving simultaneously both the head and the glenoid cavity, while the body of the scapula is fixed as above mentioned. There must then be a solution of continuity somewhere between the glenoid cavity and the body of the scapula.

The coracoid process is here very distinctly felt, and it does not follow the movements of the humerus when this is alternately carried up into its proper position and allowed to fall. By placing the fingers upon the coracoid and the acromion processes they are found to move in unison with the lower angle of the scapula without crepitation, and are therefore continuous with it, showing that the fracture must implicate some point between the glenoid cavity and the root of the coracoid process.

The body of the scapula, its spine, the acromion process, and the clavicle are uninjured.

The boy is unable to move any muscle of the limb—not even those of the fingers. The whole limb is shrunk and much cooler than the other.

The pulse at this wrist is more feeble than it is on the right side; and there seems to be no abnormal distribution of the arteries. The sensibility of the skin is very obtuse, and no degree of pressure upon the ulnar nerve at the elbow gives any pain.

REMARKS.—This case was peculiarly favorable for a minute examination, in consequence of the atrophy of the muscles, which allowed the bones to be distinctly felt at all points. In muscular adults, and during the existence of swelling, the difficulty is very much increased and may render accurate diagnosis almost impossible. I believe that it will be conceded that this examination demonstrates satisfactorily that this was a case of fracture and not of dislocation; and that the seat of fracture was between the glenoid cavity and the roots of the coracoid and acromion processes. Was it what is technically called a fracture of the glenoid cavity, or was it a fracture of either the anatomical or the surgical neck of the scapula? It was certainly not a fracture of the *surgical* neck, or, in the language of Sir Astley Cooper, “through the narrow part of the bone, immediately opposite the notch of the superior costa,” for the coracoid process was not implicated. I must confess that it is difficult to determine whether it was a fracture of the glenoid cavity or one of the *anatomical* neck of the bone. But, when we take into consideration the age of the patient and the comparative facility with which in early life articular surfaces are detached, together with the positive fact that the margin of the glenoid cavity was felt in the axilla and could be elevated with the head of the humerus, I must believe that this was a fracture of the *anatomical* neck. One or more fissures in the glenoid cavity would not satisfactorily account to me for the phenomena of this case.

The sudden paralysis induced by this accident is worthy of attention, especially as it constituted also a peculiarity in the cases heretofore reported by me. The censorious critic above alluded to, takes exception to my statement, that writers make

no mention of it in such cases, and cites instances of dislocation in which it occurred. He forgets that I was not treating of *dislocations*, but of *fractures*. He says, however, that he reported somewhere a case of sudden paralysis of certain muscles, following a fall upon the shoulder, in which there was *no dislocation*. I have no recollection of seeing his report, but even this was unlike my cases, inasmuch as he says nothing about the existence of any *fracture*. I therefore reiterate the assertion, that this peculiarity has hitherto passed unnoticed, at least by systematic writers, in *Fractures of the Neck of the Scapula*. As this sudden paralysis occurred in the three cases I have seen, should it not be taken into consideration in establishing the diagnosis of injuries of the shoulder? It has been long known that it may accompany dislocation; we *now* know that it may also be induced by fracture of the neck of the scapula; and it will be interesting to determine with precision under what other circumstances it may be looked for.

*Clinical Lecture upon Cerebral Fever.** By TROUSSEAU. Translated from *La Clinique Européenne*, by J. C. REEVE, M. D., Dayton, Ohio.

I am about to speak, to-day, of an infant which appeared doomed to a certain and almost speedy death. The disease from which it suffered, merits, in many respects, your most careful attention. It was a case of cerebral fever, which followed a regular course in its premonitory as well as its complete stage.

The patient was a little girl aged eight months, nursed by its mother. It was taken ill about six weeks ago, its constitution being good. At that time it presented a peculiar sad or heavy appearance, which was not usual, and which could not be attributed to dentition. The first group of teeth had been cut at the age of four months, and the superior incisors, the next to be expected, had not yet made their appearance, and would not probably do so within fifteen or twenty days, supposing the child lived that length of time. Dentition, then, could not occasion the illness which caused this heaviness, a symptom the importance of which I can not too strongly impress upon you, and which, succeeding all at once to the liveliness and playfulness of the

* Synonyms: *Tubercular meningitis*—Wood, Meigs; *Acute hydrocephalus*—Watson, West; *La meningite granuleuse*—Bouchut; *Die hitzige Wassergehirnsucht*—Meissner.

child, surprised and troubled the mother. Its sleep became broken and unequal, but there was an absence of one symptom so frequently seen at the commencement of this disease; it had none of those startings from sleep, accompanied by a peculiar cry, which I shall have to describe in giving an account of this terrible affection. Eight days ago vomiting commenced. Everything which was given to it, drinks of various kinds, and its natural food, were thrown up again, and the mother became seriously alarmed. Her apprehensions were increased five days ago, by the appearance of another symptom, which she has well described to us, and which it is essential to mark. Whenever she took up the child it commenced to cry; it seemed as if every touch gave it acute pain; and this was the fact, for there was then general hyperæsthesia. Finally, four days ago, convulsions came on—first on the right side, then on the left; and then the little patient was brought here. Let us pass rapidly in review the symptoms which it presented, and compare them with those which may occur in other similar affections.

At first sight we observed *strabismus*—convergent strabismus of the right eye, the pupil of which was dilated, but not so widely as that of the left. Upon that side the child seemed blind, for upon moving the finger rapidly before the left eye, there was no closure of the lids, that natural and involuntary movement for the protection of the menaced organ. There was then blindness, or great feebleness of vision; and this is an accident of cerebral fever, which children who can talk complain of readily, and which is here very plainly indicated by the wide dilatation of the pupil, and the convergent strabismus of the other eye. We observed, besides, a slight bending of the head backwards, and some stiffness of the left arm, which was agitated from time to time with movements of extension and flexion. The thumb of this side was forcibly adducted into the palm of the hand and covered by the fingers convulsively flexed upon it; this flexion, however, yielded readily to our attempts at extension. Upon removing the child's clothing, we observed that the abdomen was excavated, hollowed out—a symptom almost constantly to be met with in cerebral fever, and of great value, as it serves, in a large number of cases, to distinguish the disease from cerebral affections occurring secondarily in other diseases—typhoid fever, for example. When the hand was carried to the face of the child, as I did to examine its mouth in regard to dentition, we were struck with the redness which immediately colored the skin. And if we passed the nail over the abdomen, however lightly, in such a manner as to make longitudinal and transverse lines, thirty seconds did not elapse before the whole surface was covered with a lively redness, which, diffuse at first, remained along the lines where the nails passed, of a more intense and persistent color. This is

the cerebral blush, which I first pointed out twenty years ago, and which I have called the *meningitic blush*. This singular and inexplicable phenomenon is of great value, whatever may be said of it, and of great aid in establishing the differential diagnosis of cerebral fever. It is worth while to dwell upon it a moment, for often this cerebral blush alone is of very great signification. The parts upon which it most readily appears are, first and before all others, the anterior face of the thighs, then the abdomen, and next the face. Its characteristics are those we have just pointed out in the case before us. In making light friction upon the skin of the little patient, with the nail, or with a pencil, we saw the points touched redden with remarkable vivacity. This redness persisted a longer or shorter period—eight, ten, fifteen minutes. The existence of this cerebral blush has not been denied, it is true, but the value which I give it has been strongly contested. It has been said that it is a sign of no importance, since it occurs in other diseases as well as in cerebral fever. This blush it is true, does sometimes occur in other diseases, but it is then accidental and exceptional, while in the complaint under consideration, it is a constant phenomenon, invariably occurring during the whole duration of the disease, from its initiatory symptoms until death—a capital point as to its value in diagnosis. But a still greater objection has been made; it has been said that this blush can always be found, when sought for, in any child having fever, even of the simplest kind; but this is an error. I have pointed out to those following me in the wards, children suffering with fever accompanying violent stomatitis and severe pulmonary inflammation, and we have sought to produce this blush by rubbing the skin rudely, even to rubbing off the epidermis; the friction has caused a light redness, but this redness was not comparable, either in intensity or persistence, with that seen after much lighter friction in cases of cerebral fever. The redness of the skin in those patients disappeared almost immediately; in the little girl it persisted eight, ten, fifteen minutes; and it not only occupied the points upon which friction was directly made, but extended several centimeters around, while in the other cases it remained perfectly localized to the points touched.

If I insist so much upon this sign, I repeat, it is because, in a great number of cases, it is one of considerable value, especially in avoiding the possible confusion between cerebral fever and other maladies, such as typhoid fever with cerebral complications, and the convulsions to which children are liable, and those which occur during the access of the exanthemata. This blush is never produced in these kinds of convulsions, and if ever seen in typhoid fever, it does not attend all stages of the disease, and never has the same intensity nor the same persistence.

I have dwelt upon this point to prevent repetition. Let us

return to the other symptoms which make up the history of the disease.

The *precursory stage* is of very great importance. The writer who has insisted most strongly upon this period, is M. Rillet, of Geneva, the collaborator of Barthez in the work upon diseases of children. He has reported a large number of cases in which he was able to foresee an attack of cerebral fever from certain symptoms which I am about to indicate.

The first symptoms presented by a child about to be attacked by a cerebral fever is generally, but not always, a change of manner, which manifests itself during the month, or six or eight weeks, preceding the outbreak of the disease. The patient is sad and heavy, and takes less pleasure in its sports than usual; its *character changes*, it becomes morose and irritable towards its playmates and friends; at the same time a very perceptible *emaciation* takes place; it does not sleep so soundly as formerly, or there may be complete sleeplessness. In some cases the slumbers are disturbed by painful dreams, and broken by sudden startings accompanied by a peculiar cry which is characteristic of the disease. M. Rillet attributes these general symptoms to lesions of the brain which already exist, and which, although giving a chronic or subacute form to the malady, exercise, nevertheless, a certain and injurious influence upon the functions of the encephalon. When we recollect that we almost invariably find tubercular deposits in children who have died of cerebral fever, either in the bronchial or mesenteric ganglia—or, what is more rare, in the cervical—we can easily understand how this tubercular affection can occasion the general symptoms we have mentioned, and especially the emaciation. Further, as we almost always find in these subjects, granulations occupying the periphery of the brain, the fissures of Sylvius, and other points—granulations which are, in truth, tubercular, as the microscope incontestably proves—we can conceive that the morbid action, under the influence of which these deposits are made, although taking place slowly, has nevertheless a decided influence upon the cerebral functions—an influence which is manifested by the change of character, by the agitated and broken sleep, and by the insomnia, of which we have spoken.

Although the precursory symptoms more frequently precede cerebral fever, than any other disease whatever, I do not think we can regard them, as does M. Rillet, as exclusively characteristic of this affection. They appear to me, indeed, to depend far less upon the local lesions than upon the general pathologic state, which, preceding in this case meningo-encephalitis, precedes also in other cases, latent pleurisy, or tuberculous engorgement of the mesenteric ganglia, or in others, again, pulmonary or bronchial tuberculation. In a word, the precursory symptoms indicate

rather a morbid diathesis than a declared disease. We know how much the character of a child changes under the influence of sickness, but few among ourselves have not learned, by experience, that such a change takes place in adults, even under the influence of a light ailment, and the change takes place in children as much more readily as their characters are more mobile.

We can easily understand, then, this sadness of the child, this unaccustomed repugnance to the sports of its age, this moroseness which is not habitual to it, without calling to our aid any local encephalic lesion. We have for their explanation the existence of a most grave, morbid state of the system—a tuberculous state not yet manifesting itself by local affections, but profoundly affecting the entire economy. I should say, however, that, although these precursory symptoms occur in the other diseases mentioned, they are in no other cases so striking as in cerebral fever.

Finally, more decided symptoms of the disease manifest themselves. Most generally it is vomiting, and *uncontrollable vomiting*, which announces the commencement of cerebral fever. In the greater number of cases, the friends of the patient look upon this symptom as of slight importance; and as the child has eaten but a few hours before, and perhaps even with good appetite, they consider it as only the effect of indigestion. During a day, or perhaps two, they remain of this opinion, but finding the vomiting persist, are compelled to abandon it. And, in truth, it is very rarely that vomiting is repeated in indigestion after the stomach has once emptied itself. This persistence of the symptom is then a fact of great importance. When it occurs without febrile action in a child which has been vaccinated, our attention should be immediately directed to cerebral fever; occurring in one not vaccinated, accompanied with fever more or less severe and continuous, with profuse perspiration, diarrhœa, and pains in the loins, we should fear variola; but, I repeat, in the absence of these conditions, the vomiting described announces the commencement of cerebral fever. It should be added that there is generally obstinate *constipation*.

At the same time the patient complains considerably of headache; and although this is a symptom which strongly attracts the attention of the friends and the physician, it is a symptom which cannot be considered as of any great value in this complaint, for there are many other diseases which are attended by headache, more or less violent in proportion to the intensity of the fever. However, there is this peculiarity in the headache attending cerebral fever: it is rare that the *initiatory fever*, of which it is one of the epiphenomena, is limited, as in the other diseases, to a single accession; generally the patient has two or three chills in the twenty-four hours, and after each chill, some heat of skin and perspiration; sometimes the chill returns each day at about the

same hour, in other cases, but more rarely, the fever is continued, but moderate, with frequent remission. The febrile movement, the violent headache, more or less limited to one part of the cranium, the moroseness of the patient, its sleeplessness, the persistent vomiting, are signs of capital importance. When the physician observes them, he should be carefully upon his guard. It is not rare, even at this stage of the disease, to be able to discover more serious symptoms, amblyopia, hemiopia, etc.

Such are the symptoms of the first period of cerebral fever.

In the *second period*, to the sleeplessness, the febrile movement, and the violent headache, succeed a deceitful calm and repose, which is likely to tranquilize the uninformed physician, and above all to quiet the apprehensions of the parents, who are always ready to seize upon any favorable indications. But the practitioner who has been taught by experience, informed by the symptoms of the preceding period which he has seen or been told, knows too surely that cerebral fever is established, that it has entered upon its *apyretic stage*, and that henceforward it will steadily pursue its fatal course. The *pulse* now shows a peculiarity; ordinarily regular in the first days of invasion, (I say ordinarily, for sometimes in the first period there is irregularity which gives valuable information to the physician,) it becomes now, in the second period, remarkably slow, at the same time unequal, but, above all, excessively irregular; while normally, in a child four or five years old, there are between ninety and a hundred beats per minute, and in an infant at the breast, from one hundred to one hundred and twenty, in the second period of cerebral fever the number of pulsations falls to sixty, sometimes fifty-five, or fifty; and it may fall even below that, while at the same time, it presents great inequality and irregularity.

At this time the child remains in a state of somnolence which contrasts singularly with the agitation of the first period. It enjoys, in appearance, a peaceful slumber, which rejoices and comforts the friends who surround it; but soon, seeing it prolonged, they become justly troubled and alarmed. This somnolence persists from four to five days. If the little sufferer is awakened, it utters a cry of impatience, and immediately drops asleep again; yesterday terrified at your presence, afraid of the physician whose examination harrassed it, it no longer exhibits any alarm; then it could not endure even an examination of the pulse, the slightest touch agitated and tormented it,—now it appears indifferent to anything you may do; you open its eyes, you pinch it to discover the degree of cutaneous sensibility, and if it appears for a moment irritated, it drops immediately into its quiet slumber. This is a symptom of most serious character, and which we find in scarcely any other disease. About the end of two days, the countenance presents a strange appearance. From time to time

the child opens widely the eyes ; they are brilliant, and at that moment a bright redness overspreads the face, comparable to the blush which modesty sends to the cheeks of a young woman. This redness disappears in a minute or two, the eyes close again, and the child returns to its former state. This *reddening of the countenance* is repeated from time to time during the day ; it is also of value. Soon it occurs more frequently, and in a great number of cases ; when it takes place the child utters a few plaintive cries,—a characteristic phenomenon which Coindet has particularly pointed out ; this is the *hydrocephalic cry*, the cry of cerebral fever ; it may be repeated every hour, every-half hour, or at much greater intervals. It is a cry of pain, and the patient having uttered two or three of these, falls again into the calmness and into the sleep from which its sufferings had for a moment roused it. This peculiar appearance of the countenance and the hydrocephalic cry completes the description of the second period, with the exception of one sign of which it is necessary to speak. I allude to *retraction of the abdominal parietes*. The abdomen is hollowed out, and this fact is especially important in establishing the differential diagnosis between the disease under consideration and typhoid fever, a disease in which the abdominal parietes are always protuberant.

One other symptom, however, must still be mentioned ; it has struck those who observed the little girl, who is the subject of the present lecture. I refer to *irregularity of respiration*. It was well marked in our patient, as I have said, but less so than in many others I have seen. How did she respire ? In counting the respirations, watch in hand, there was extreme difficulty in following them ; first, there was a feeble inspiration followed by a feeble expiration, then a stronger inspiration and expiration, and again a feeble one, and finally a period of cessation. These four respiratory movements were accomplished rapidly, and the chest remained motionless afterwards during three, four, five, and six seconds. That is what occurred yesterday ; that is what occurs to-day ; to-morrow, in place of an interval of five or six seconds, there will be one of ten, twelve, or fifteen.

In a child of two years, in the Hospital Necker, afflicted with this disease, I was able to count by the watch, periods of cessation of respiration of thirty, thirty-five, forty, and even of fifty-seven seconds ; and it is remarkable that this irregularity of respiration extends to the third period of the disease, when the slowness of the pulse has been succeeded by great frequency—this infrequent respiration occurs with a pulse beating, as in the case of our little patient, as high as one hundred and sixty per minute. In no other disease can this singular anomaly be found ; this unequal respiration does not occur in the idiopathic convulsions of infancy, nor in typhoid fever,—so that in cases where we hesitate

in making a diagnosis, and these cases are still too frequent, this fact, in addition to the cerebral blush upon which I have so strongly insisted, should have a great significance. It is of importance in view of diagnosis, but it is far more so in regard to prognosis—and for this reason: the termination of cerebral fever is almost always, if not always, fatal. In the course of a long medical career, I have never but twice seen recovery take place. Once it occurred under my own care, in the children's hospital, where we were able to verify the fact by an autopsy. There seems a contradiction between the words *recovery* and *autopsy*, which may require an explanation, and this can be easily given: the acute disease had subsided, but was followed by a serious chronic affection, which terminated the life of the patient five months afterwards. My *interne* presented to the Society of Anatomy, the brain, which had evidently been the seat of softening four or five months before.

The other example of cure was in a child I saw in Bolougne, near Paris, in consultation with M. Blache. These two children are the only ones, I repeat, which I have had the good fortune to see recover in a long practice. It shows how serious is the disease which furnishes such results; to me, its incurability seems nearly absolute. You can comprehend, then, of how much import the question of diagnosis must be when it is impossible to form a prognosis without it; and here prognosis is of vital importance. We must distinguish from cerebral fever, typhoid fever with cerebral complications, and the idiopathic convulsions of infancy. We cure, in fact, the greater number of young subjects attacked with typhoid fever, even when it is of the most grave character—even when accompanied by serious cerebral complications; and we cure ordinarily the convulsions of children. But if we do not make the distinction—if we take for cerebral fever diseases of which we have just spoken, (and typhoid fever may easily be confounded with it,) we shall imagine that we have cured many cases of the disease, and be astonished at hearing practitioners of great experience avow that they have never been fortunate enough to save a single one.

The *third period* of cerebral fever is characterized by a *return of the febrile movement*. We have seen the fever of the first period occurring in paroxysms of short duration, several times repeated in the twenty-four hours, or continued, but moderate, and with frequent remissions. In the second period of the disease, the pulse, on the contrary, was remarkably slow; in the third period, it becomes extremely frequent, and this frequency goes on increasing until death terminates the case. It is at the same time sharp, and the skin is warm, but it is singular, and the fact is of value in the diagnosis, that the thirst which generally attends fever of every kind, does not exist in the disease

under consideration. While children, suffering from cerebral complications in typhoid fever, from scarlatina, from any other pyrexia, or any inflammation, demand drink eagerly, or if unable to talk, make known, by certain pantomimic actions, the thirst which torments them, nothing of the kind is seen in patients attacked with cerebral fever. There is no thirst, or, at least, no evidence of any is given. Not only do the little patients not ask for drink, but when it is offered they manifest repugnance to it. Does this repugnance arise from the difficulty of deglutition experienced by them? This may be; but whatever the explanation, the fact is the same.

Already in the second period, a symptom had made its appearance which, although present then, is of course much more strongly marked in the third. I allude to the *state of depression* into which the patient has fallen. Completely indifferent to what passes around it, it observes nothing, is disturbed by nothing; everything which pleased it formerly, its toys, the amusements of its age, are now unnoticed, and it lies in a state of complete immobility: sometimes it responds when spoken to, but never asks questions of its own accord; while in every other disease, it will call for its mother, its nurse, and those it is accustomed to see, manifesting in a word desires, in cerebral fever it seems to have no spontaneous ideas and no wants. In the first period of the disease, we can awaken the patients by disturbing them. They complain and cry upon being irritated; but in the third period this is no longer the case—nothing rouses them from their deep depression.

Convulsions are sometimes, but rarely, observed at the commencement of the disease; in the second or apyretic period, there are none, properly speaking, but there is something resembling them—something analogous to the epileptic vertigo; the child opens its eyes quickly, and they remain singularly motionless. This convulsive movement manifests itself more decidedly in the third period, and then also appear symptoms of *paralysis*, which in some cases occur towards the end of the former stage. Thus, when our little patient opened its eyes, one of them was much more widely opened than the other, for the levator palpebræ began to be sluggish; there was also strabismus. These symptoms indicated clearly that paralysis was commencing, and an attentive examination showed that it had already extended to other parts of the body. In an infant, we can establish this fact, by laying it upon its back and tickling alternately the soles of its feet: it draws back one foot much more readily than the other: the power or motion is impaired upon one side, sensibility is also less, and a greater stimulus is required upon this side to produce the same effects. The parents will tell you, besides, that their child allows one arm to lay along by its body more than the other,

and if you examine this member you will find motion, power and sensibility more or less affected. The paralysis of cerebral fever has this peculiarity about it: it appears to be variable. I will explain what I mean; one day you ascertain the fact that upon tickling the soles the child withdraws one of its feet more readily than the other; some days afterwards, in repeating the experiment, you find that it is no longer the right leg, for example, which it moves more easily, but the left. It seems, and let me repeat the word, it *seems* as if the paralysis had ceased upon the right side, and passed to the left; but this is not so. The member primarily paralyzed remains so, but the paralysis not increasing, it retains the movements which you have seen executed more feebly than upon the healthy side; but the other side, healthy until now, is paralyzed in its turn, and the stroke being more severe than upon the side first affected, sensibility and power of motion are almost abolished, and it seems now alone affected, while in truth the other is also paralyzed, but in a less degree than the second.

The lesions which we find afterwards at the autopsy give an explanation of this fact; for if the paralysis has remained limited to the right side, the cerebral lesion is found only upon the left side, while if the paralysis has seemed to pass from one side to the other, there are cerebral lesions upon both sides, but more marked upon one side than upon the other. I have thought necessary to dwell upon this peculiarity of the paralysis in this affection, for, in my belief, it is seen only in cerebral fever.

Let us return to the *convulsions*. Rare in the first period, occurring in the second only in a modified form and resembling epileptic vertigo, in the third period they make their appearance, first in the form called *convulsions internes* [*inward fits*, in the common language of this country,] afterwards increasing to attacks of general eclampsia. If we observe closely a child in this stage of the disease, we see at certain times its countenance is distorted, and its jaws move mechanically as if chewing, while its thumb and fingers are flexed into the palm of the hand; to this stiffness complete relaxation succeeds; there has been a true tonic convulsion of certain classes of muscles, and not one alternately tonic and clonic as in general attacks implicating the muscles of the extremities. These are the internal convulsions, having a duration of eight, ten, twelve, or fifteen minutes, during which the eyes are turned upwards and inwards, and agitated by slight oscillations. The diaphragm, and the muscles of the glottis may be seized with these convulsive movements, and then the patient is suffocated—respiration can no longer be performed.

As the disease approaches its fatal termination, *general convulsions* come on, and generally death occurs in one of these attacks;

they are repeated every hour or every half hour, and the patient dies in a state of demi-asphyxia, as in epilepsy.

The convulsions are a prominent symptom of the third period of cerebral fever; but in this stage another accident also takes place. The patient fallen into a state of deep drowsiness, closes the eye-lids but partially; the eye being insensible, the cornea remains exposed to the air, the act of winking is no longer performed, the eye dries, the conjunctiva inflames, and then you observe a deep suffusion of the membrane at the same time that the edges of the lids become bleared. This is also seen in other grave diseases, (typhoid fever, for example,) and it is an accident to which I have often called attention, and which I made the subject of a note published in the first volume of the *Archives Generales de Médecine* for the year 1856.

The termination of this disease is, as I have already said in the course of this lecture, always fatal, for the exceptions of this rule are so rare, as not to be worth mentioning.

After so sad a prognosis, I should have little to say upon the subject of treatment, since whatever we do is in vain. Nevertheless you have seen me resort to remedies in the case of the little child whose case we are considering. I instituted treatment, not with the expectation of rescuing it from its fate, but to afford some consolation to the mother. Is it not in fact cruel to say to a mother who calls you to her child, or if not to say it in words to indicate by your actions, that medicine is powerless, and that her child is doomed to certain death? Although, therefore, the physician, instructed by long experience, is unable to see a glimmer of hope, he should act, he should undertake the case, and apply all the means at his disposal to sustain the courage of a family which implore him for aid, and not leave them to the bitter regret that nothing was done to save their child.

For a long time I have employed everything in the treatment of this disease, everything extolled by others, everything which, upon my own part, I had been able to imagine. I have given calomel in large doses, and I have given it in minute ones; I have had recourse to drastic purgatives and to sedatives: I have administered the iodide of potassium as recommended by Otterburg; I have applied large blisters to the head, I have applied ice and cold affusions, and never, except in two cases, have I seen the disease retrocede, and in those two cases I am confident my remedies had nothing to do with the result. Farther, at the children's hospital, I have treated the patients comparatively, some energetically and some upon the expectant plan, and I must say that the fatal event followed more rapidly in the former than in the latter. Now, therefore, I feel obliged to pursue a course of medication far from energetic, and designed, I repeat, rather

to afford consolation to the parents than to act against a disease which I consider invariably fatal.

Thus you have seen me give our little patient musk and syrup of ether, and nothing else. In other cases, you may try antispasmodics, or the mercurials in small doses; but remember, the prognosis must nevertheless remain the same.

It suffices to see the lesions produced in cerebral fever, to comprehend why the prognosis should be as I have said. Our little patient died, and these are the pathological conditions found at the autopsy: considerable softening of the cerebral centres, of the fornix, of the corpus callosum, of the median septum and floor of the ventricles; these cavities contained a certain quantity of slightly turbid serum. About the chiasm of the optic nerves, behind the decussation, a fibro-plastic, *purulent* infiltration was seen in the thickened membranes. This infiltration did not exist in the interlobular fissures, where it is usually observed, and what is also very rare, there were neither *granulations* on the surface of the hemispheres nor *tubercles* disseminated through its substance. Neither were there any in other organs where they are almost constantly found—none in the mesenteric ganglia, none in the lungs, none in the bronchial glands; and yet of thirty infants dying of cerebral fever, twenty-nine will present tubercular lesions, of which, in this child, there is not a trace.

This proves once more, that cerebral fever runs the same course and has the same characteristics in children not tuberculous as in those who are so. Because we find granulations in the encephalon of the latter, it does not prove that those granulations were the cause of the encephalo-meningitis. They do not cause it any more than do the granulations of the pleura cause tubercular pleurisy; far from having caused the inflammatory disease, they are themselves developed under the influence of inflammation. If, therefore, I refuse to cerebral fever the name of meningitic, it is because I consider the inflammation of the meninges to be only of secondary importance. The lesions of the cerebral envelopes are of very far less importance than those astonishing lesions which are always found in the brain itself, that softening which destroys the fornix, the septum lucidum, the corpus callosum, the optic thalami and the posterior portions of the lobes of the cerebrum. Cerebral fever is therefore for me an encephalo-meningitis.—[*Cincinnati Lancet and Observer*.

Attempted Abortion and Death from Introduction of Air into the Veins.

ONE of the most painfully familiar topics of our current medical experience, arises from the familiarity and indifference with which the large mass of community have come to regard the

production of abortion; so that everywhere we hear the lament of the honorable physician, of the unconcern with which he is consulted for this purpose by both the unmarried female, who may be supposed to have the more anxious solicitude to hide her shame, and alike the respectably wedded mother, who has no such motive to afford a plausible pretext.

The danger which is associated with these attempts, does not appear to be duly estimated even by the members of the profession, in many instances; and popularly a great many expedients, instrumental and medical, are used and regarded as perfectly innocent and harmless. Every now and then, however, we read of and observe sudden and almost inexplicable death to ensue in cases of this kind.

An instance in point fell under our observation within less than a year in this city. We were summoned, about half past eleven o'clock P. M., (near midnight,) to see a lady, and found her already dead. Upon inquiry, and in the subsequent details of the coroner's inquest, it transpired that she, although a happy wife and mother, had determined not to allow any further additions to be made to her nursery cares. Finding herself, therefore, pregnant, she had consulted one of those dames reputed to be skilled in such matters, and had held repeated private interviews with her for a number of days before her decease. The night of her death, her husband was engaged away from home until about eleven o'clock. The servant girl remained up until after ten o'clock. The husband arrived at home at eleven, and found his wife deceased and the girl and children asleep. Certain instruments were found about the person of the deceased, which indicated that she had made an attempt to throw up a strong stimulating injection into or about the mouth of the uterus. What she actually did is, however, left in some conjecture, but death must have been very suddenly produced, considering the brief time in which she was left alone, and in view of the fact that the girl in the next room was unawakened.

It will be a happy time when this truth shall become impressed upon the popular mind, that whenever a woman places herself in the hands of "abortion procurers," she positively runs the risk of her life in every instance.

The following case, reported by Dr. John Swinburne, of Albany, N. Y., and which we copy from the *Medical and Surgical Reporter*, in full, is in point, and affords some especial light upon the character of danger in these cases, and how death may ensue, and very suddenly:

Miss M. A. S., aged twenty three, unmarried, was admitted to the house No. 40 Franklin-street, for the purpose of having an abortion procured, on or about the thirteenth of March.

It is ascertained that attempts were made, from day to day,

to rupture the membranes with a blunt steel instrument. These efforts only produced slight inflammation, softening, and partial separation of the membranes and placenta.

On the evening of the twenty-sixth of March, Dr. J. H. Case was summoned in haste to the above mentioned house, where he found that the young woman had just died. An examination before the Coroner's Jury the next morning elicited, among other testimony, the following statements :

Dr. J. H. Case, sworn : Knows Mrs. Masten ; was called to attend a patient at her house about six months ago ; her given name is Oscillea ; her ostensible business is an astrologist. The patient whom I visited six months ago was a young woman ; she had inflammation of the womb. Was called by Miss Curry last night at nine o'clock ; said that Mrs. Masten wanted I should call as soon as possible, that a lady there had fainted and was very sick ; went to 40 Franklin-street, and found Mrs. Masten on the walk ; she said she was glad I had come, as the woman was very bad, and she was afraid she was dead ; she said it was only an India rubber that she was using, and that the deceased fell right back dead. Found a body lying on the bed very pallid, and dead to all appearances ; Mrs. M. did not go in with me ; thought it might be a case of suspended animation ; gave her some stimulants, but they did her no good—she was dead ; told Mrs. M. so, and she said, “ Oh, Doctor, what shall I do ? ” The girl Curry, then said, wringing her hand, “ What shall *we* do ? ” I told Curry that they could do nothing with her ; Mrs. Masten said to her, “ No, I am to blame ; I shall have to stand it. ” She again asked me what she must do ; advised her to throw herself upon the mercy of the law ; she asked me if I didn't think it best for her to try and escape ; told her that it would be impossible if she undertook it ; she also said it was a bad time for her, as she had no time to fight it out or money to escape ; but that she expected some on Monday, and if she had that she would clear right out in half an hour ; she again repeated that she didn't know how deceased came to die, as she could show me the instrument, and that it couldn't hurt her ; went into the bed-room again, and another young lady said she thought deceased was reviving ; wanted me to try and revive her ; Mrs. Masten turned down the bed-clothes and produced a gutta percha catheter. [The article was produced and identified.] She said that was the instrument she used, and that it could not hurt her ; also, that it wasn't the one she generally used ; that it was milder, and the girl's death surprised her ; that while using it, the patient, as she thought, fainted away ; that she tried to fetch her to, and failing, had sent for me ; think it was about nine o'clock when I got to her house ; don't think that over fifteen minutes had elapsed until I saw the deceased, after being called. Mrs Mas-

ten indirectly asked me to loan her money to escape with; I found three or four young girls in the house when I first got there; one of them said that she had got through with her troubles, and that she thought it best for her to get away as soon as possible; asked her if she was able, and Mrs. Masten said she was all right; suppose, from what I saw and heard, that all the young ladies were "in trouble;" think I know one of the young ladies I saw there; believe I prescribed for her some time since.

Assisted by Charles H. Potter, Professor of Chemistry, Dr. C. P. Staats, and my students, Messrs. Mosier and Covell, I made a *post mortem* examination fourteen hours after death. The following detailed description is given for the benefit of medical readers.

External appearances of body natural, but very pallid. On cutting through the integuments into the cellular tissues, air was observed to issue from the divided veins in the form of a frothy fluid. On exposing the heart, its right cavities were found to be greatly distended with a spumous mixture of blood and air, and slight compression of the heart was seen to force out bubbles of air from the divided intercostal veins. A thorough examination showed that the jugulars, and the veins emptying into them, even to the small vessels of the brain, were all distended with air.

The uterus was found to be of a dark livid or maroon color at its lateral portions, and its veins and sinuses were so fully distended with air, as to give it the appearance of a bag of angle-worms. The sensation communicated to the touch was analogous to that of varicocele, with the exception that in the latter the tissues are soft and distended with liquid, whereas in the case of this uterus the presence of air was unmistakably manifested by its characteristic crepitus when the vessels were compressed by the finger.

The membranes of the ovum were entire, and contained a normal amount of amniotic liquor, and an apparently healthy female foetus of about five months' growth, presenting no appearance of decomposition, or any change to indicate death of the foetus at any period long prior to that of the mother.

On the internal surface of the membranes was a slight exudation of lymph, as from inflammatory action. Externally they were separated from the womb on its right latero-posterior surface, as was also the placenta in part. Beneath the lower border of the latter, was an effusion of blood in the form of several small coagula. The os and cervix were opened to the extent of two lines, and filled with bloody mucus.

On examining the membranes and their contents, the internal surface of the womb exhibited the following appearances: 1.

Slight softening of the tissues; 2. Several abrasions evidently not natural; 3. A perforation communicating directly with the uterine sinuses, about two inches from the cervix, and in the right latero-posterior region. This opening communicated directly with the veins of the broad ligament, and thus with the ascending cava. The direction of the perforation was parallel with the longitudinal axis of the uterus. All the other organs of the body were in a perfectly healthy condition.

These *post mortem* appearances, conjoined with the description of the young woman's death, can not be accounted for by any other cause than that of "air in the veins." Death occurred while the instrument was in the uterus, and was *immediate*, for the woman mistook *death* for *syncope*.

The point of interest in this case, is as to the *manner* in which the air was introduced. Several deaths have been reported from ingress of air into the large veins of the neck, and even the subclavian is liable to the same thing under favorable circumstances, such as tension upon the vein from the subject's position during surgical operations, or by traction upon a tumor during excision, the vein being temporarily *canalized* or prevented from collapsing.

Under all circumstances, this canalization of a vein, or its conversion into a rigid tube, is the indispensable condition requisite for the intrusion of air. But this condition is inadmissible in the case of the uterine veins and ascending cava, from the nature of physical laws which govern the movements of the fluids in the body, no less than in inorganic matter.

In the twenty-second volume of *Braithwaite's Retrospect*, on page three hundred and nine, will be found an article by Dr. J. R. Cormack, in which is discussed the possibility of introduction of air into the venous system through the medium of the uterine veins immediately after parturition. He instances the experiments of Legallois upon animals, whereby that author became satisfied of the possibility of the intrusion of air in this way, and by analogy conjectured that many cases of death in the human subject might be accounted for in a similar manner.

He also quotes from Dr. Simpson, of Edinburgh, who reports an autopsy of the body of a female who died after delivery, where the entrance of air through the uterine veins was conjectured to be the cause of death. The examination, conducted carefully, so as to exclude all apparent sources of error, resulted in the discovery that the lower cava, hypogastric, and uterine veins were distended with frothy blood and air.

Dr. Simpson also explains the manner in which air might be forced into the veins by the contraction of the uterus after having been filled with air, which is not seldom the case. This organ being distended with air, the os tincæ being closed either

by its own sphincter or by a coagulum of blood; the uterine veins being large and patulous, and the forcible contraction of the organ—these furnish, in his opinion, the mechanism capable of accomplishing the fatal accident. (See *Braithwaite's Retrospect*, xix., page 262.) In the present case no such conditions are furnished, and throwing aside the hypothesis of spontaneous ingress, we are compelled to fall back upon the presumption that the abortionist forcibly inflated the entire venous system, by means of the catheter introduced into the uterus, perforating its parietes, and in contact with the lacerated vessels of that organ. And this presumption is strengthened by the fact that the opinion prevailed, at the time of the coroner's inquest, that abortion might be produced by inflating the space between the membranes and the womb.

The fact of forcible inflation is incapable of proof, there being no third person present at the time of death, and hence no witness. Absolute certainty can only be arrived at from the confession of the guilty woman herself.—[*Cin. Lancet and Obser.*

Diphtheria.

Dr. David Wooster thus sums up an able article on Diphtheria, which has appeared in the *Pacific Medical and Surgical Journal*:

I. Diphtheria is a *specific* disease.

II. It is distinguished from scarlatina by the absence of eruption; from gangrenous sore throat, by the absence of ulceration and sloughing; from croup, by the aplastic nature of the exudation.

III. Diphtheria may properly be divided into two varieties: the mild and the severe.

IV. The mild is seldom fatal; slight, or no difficulty of deglutition, little fever, no engorgement of cervical glands, neither coryza nor lachrymation, but presenting the positive diagnostic sign of aplastic exudation on the tonsil, palate, or pharynx.

V. The severe is recognised by the diagnostic aplastic false membrane, high fever at first, coryza, lachrymation, engorged glands about the jaw, difficult deglutition, difficult utterance, or complete aphonia, great diminution of animal power, cyanosis, vomiting towards the close of the affection, and intense gangrenous fœtor from the decomposition of the exudation.

VI. Diphtheria is contagious.*

* The experience of the French epidemics has made abundantly clear one very important fact in the history of Diphtheria, which has not yet been so clearly eliminated from the observed facts, of the English epidemic. It may be very clearly shown by the evidence collected, that contagion plays the principal part

VII. The simple form is easily controlled by treatment which is the same as for the severe form, modified according to the comparative urgency of the case.

VIII. The severe form is with difficulty controlled, and the prognosis is always extremely unfavorable, even at the beginning.

IX. The treatment is the local application of hydrochloric acid, diluted or not; solution of nitrate of silver, one or two scruples to the ounce of distilled water; strong solution of sulphate of copper, drachm and a half to the ounce of water; concentrated solution of the perchloride of iron; Monsel's Salt, in powder; solution of chloride of sodium, etc., according to the educated judgment of the physician.

Externally—strict cleanliness; in the first stage of the disease, while the engorgement is red and hot, cold, wet compresses applied to the neck, and often repeated, can scarcely fail to relieve, at least for a time. Farther along, when the engorgement of the throat becomes oedematous, warm fomentations should be substituted. Never liniments, mustard, nor anything of the kind; for these appliances increase the anguish of the patient, and do not mitigate the affection.

Internally—first, a thorough emetic of ipecacuanha, given in full dose and largely diluted, so as to be vomited immediately. This should be repeated daily for the first two or three days. The bowels should be moved once a day by glysters, if possible; if not, by some mild laxative. Drastic cathartics should be carefully avoided. Iced milk and water, or iced gum-water, or iced infusion of *ulmus fulva*, should be given in minute quantity, frequently as the patients desire. These iced fluids will be found very grateful to them.

Quinine in small doses, say from one-fifth to one-half of a grain, often repeated, should materially assist in the tonic treatment universally recommended.* The mixture of "sesquichlo-

in the propagation of Diphtheria. There is in this country, a great deal of skepticism as to the contagious character of this disease; but the mass of evidence to prove it is overwhelming. Thus Bretonneau has collected some crucial cases. One is that of M. Herpin, Surgeon to the Hospital at Tours, and Professor at the school. A child seized with Diphtheria, who had transmitted the disease already to its nurse, was placed under his care; and at one of his visits, by access of cough, part of the diphtheritic matter was ejected from the mouth, while the process of sponging the pharynx was being performed, and it lodged on the aperture of the nostril of M. Herpin. Occupied with his task, he neglected for a moment to remove it. A severe Diphtheritic inflammation of the part ensued, which spread over the whole nostril and pharynx. Extreme constitutional disturbance occurred, and the prostration was so severe, that convalescence occupied more than six months. Dr. Gendren, of Chateau de Loire, received a shower of tracheal Diphtheric exudations, expelled by a young patient during an access of coughing. Laryngeal Diphtheria set in, with urgent symptoms. Prompt measures saved him.—*Lancet*, April, 1859, p. 288.

* Of the many internal remedies which have been advised, we do not know of any on which so much reliance can be placed as on the tincture of sesquichloride

ride of iron with chlorate of potass, chloric ether, and hydrochloric acid sweetened with syrup," may be employed by those who fancy many not incompatible compounds in one conglomerate. But care must be used not to give this mixture with the milk and eggs recommended in the same paragraph of the *Lancet's* Commission; and yet it is hard to see how this could be avoided, if all are to be given "frequently." I would suggest another remedy combining tonic, nutriment, and stimulus: ferruginated cod-liver oil and brandy, in the proportion of two fluid drachms of the former to one of the latter, repeated four or five times a day, or oftener, if the stomach will bear it.

I believe chlorate of potash harmless, but of unproved efficacy in diphtheria. I have employed it, but saw no results except mitigation of fœtor of expiration, when the false membrane was in the stage of decomposition. Charcoal, chloride of soda, etc., perhaps act in a similar manner. Ablation of the tonsils at the beginning of the disease, it appears to me, cannot be too strongly insisted upon. Tracheotomy cannot be ignored, but should be resorted to where other means fail to relieve the cyanosis, and suffocation is imminent from obstruction of the fauces and larynx, or even the fauces alone, the larynx being intact. In this latter condition, tubing the larynx should first be attempted.

It is less difficult to prevent this disease than to cure it. The most scrupulous cleanliness of persons and surroundings, free and constant ventilation, should be insisted on. If there are many children, and the rooms are small, as frequently happens in families where this disease appears, the well ones should be sent away, if possible; and if not, kept out of the room in which the infected child lies. M. Duche insists on the free use of sulphur as a prophylactic: he says, those children who took sulphur were not attacked, in any case; while others, under the same circumstances, fell victims to the malady. It is a simple, harmless remedy, and should be tried as a preventive. M. Duche may be right.

Finally, all our knowledge of this disease may be thus epitomized.

1. Diphtheria is a specific, new, zymotic disease.
2. Its diagnostic sign is an aplastic membranous exudation.

of iron, with chlorate of potass, chloric ether, and hydrochloric acid, in the form of mixture, sweetened with syrup; full doses being employed, according to the age of the patient, and frequently repeated. A free use should be made of generous wine, beef-tea, coffee, eggs in combination with brandy and wine, milk, and whatever other form of nutriment the ingenuity of the surgeon or the fancy of the patient can suggest. When food is refused, then enemata similarly composed must be administered frequently, in small quantities of two ounces and upward, that they may not be rejected; for it is of the first importance that inanition should not open the last portals of life to the advancing disease.—*Lancet Commission*.

3. The indications of treatment are to remove the exudation, and prevent its re-formation.

4. The treatment is tonic, antiseptic, stimulant, and nutritious.

5. The means of prevention are cleanliness, pure air, free living, and possibly sulphur taken internally.

Conclusion.—Diphtheria is the most, *certainly* fatal epidemic that ever visited our race; but it is not *de natura sua* incurable.—*American Med. Monthly.*

Atropine in Epilepsy.

Dr. Max. Maresch, availing himself of his position as physician of an establishment for the insane, at Vienna, has submitted some epileptic patients to the influence of atropine, and has published the results in the *Vienna Journal of Medicine*. Dr. Maresch's experiments were made upon eight patients in the female department, and ten more in the department of the incurable insane; four of these were men, and six women.

Of the eight first patients, three were completely cured, and the condition of the five others so notably ameliorated, that it was impossible to deny the beneficial effect of the atropine. Of the ten patients belonging to the class of incurables, eight experienced a marked diminution in the violence and frequency of their epileptic attacks, as well as in the exacerbations of their physical troubles. These results, united to those obtained by others in the treatment of epilepsy by atropine, merit serious attention.

Maresch has carefully noted the therapeutic phenomena which have arisen during the administration of this remedy. One-fiftieth of a grain of atropine, gave rise, in every case, to effects which habitually follow the administration of this agent, such as dryness of the throat, difficulty in articulating, visual aberration, dilatation of the pupils, etc.; phenomena to which by degrees the patients become habituated, which, however, do not cease during the entire treatment. In every case the pulse lost eight or twelve pulsations during the first hour after taking the remedy, but the pulse resumed its normal frequency so soon as the other therapeutic phenomena manifested themselves. There did not occur, in any case, a marked and permanent acceleration of the pulse, under the influence of the dose above indicated. As special phenomena, Maresch observed in those cases while under the influence of atropine, an exanthem analogous to roseola, which soon disappeared under the influence of warm baths and the discontinuance of the remedy. It is, besides, worthy of remark, that atropine did not give rise, in any

case, to digestive derangement, or any other unfavorable symptom.

The administration of this remedy has not proved beneficial in the other forms of mental diseases. Dr. Maresch administers atropine as follows: he dissolves a grain of it in five hundred drops of rectified alcohol, and of this solution he gives from five to ten drops, (from one-hundredth to one thirtieth of a grain.) This dose is administered once, in the morning before breakfast, from which coffee, tea, and chocolate must be excluded, as these substances interfere with its action. This is continued from sixty to ninety days, without interruption, then is to be resumed after an interval of from thirty to forty-five days. With women, there is no need to suspend its administration during menstruation, as it favors and augments this discharge. Rarely does atropine give rise to constipation, more frequently to diarrhœa, which necessitates, when it becomes severe, a suspension of its administration for some days.—*Translated from L'Union Médicale, by S. E. C.—American Med. Monthly.*

Reflections upon the Use of Raw Meat in the Colliquative Diarrhœa of Infants at the Breast. By Dr. J. F. WEISSE, Director of the Hospital for Children, at St. Petersburg.

A PERIOD of seventeen years has elapsed since the attention of my confrères was called to the great value of this remedy in this disease, but it did not come into general use until five years later, and after the publication of more extensive works upon the subject. About this time, Dr. Behrend, of Berlin, addressed me a letter which contained the following passage: "You cannot imagine how much interest your communication upon the treatment of the colliquative diarrhœa of infants at the breast, by raw meat, has excited; we now use it exclusively in this disease." Soon after, Dr. Behrend inserted in the sixth volume of his journal, a letter from M. Marotte, Physician of the Central Office of the Hospitals of Paris, addressed to Professor Trousseau, in which the author gave a theory to account for the results which I had obtained. From this latter time, the treatment by raw meat has been generally admitted everywhere, and its utility has become incontestable.

Among the numerous favorable reports recently published, I will cite that of Dr. Eichelberg: "In consequence of the short time which has passed since this treatment was recommended, I have by me only a limited number of observations, (twenty,) but all prove its efficiency. The cases in which infants refuse raw meat are very rare; the majority swallow it with avidity. I have observed two cases which were very striking; in these

the children took the meat for several weeks without repugnance; a very great amelioration was felt in the general system; all at once they refused it, as if guided by a natural instinct. The want of osmazome induced the infants to devour the meat, but as soon as the equilibrium was established in the economy, this want disappeared."

Dr. Eichelberg makes use of raw meat only in the treatment of diarrhœa which attacks children fifteen days or three weeks after they have begun to take the breast; the cure is then certain; for myself, in ordering this regimen, I also have employed it in this affection only; and now after twenty years of experience, I maintain that raw beef, reduced to a pap by scraping, is, to the exclusion of all other medication, the veritable specific for this diarrhœa which causes so much ravage. I am not able to admit the assertion of Mr. Charles Hogg, in recommending beef-tea, so well known in England: "Beef-tea is an excellent aliment, very nutritious, and easy to digest; it replaces completely the juice of the meat obtained by scraping, which is so lauded by Dr. Weisse, of St. Petersburg." I have found raw meat not an aliment for infants, but a remedy for diarrhœa; further I have never spoken of the juice of meat, but have recommended the muscular substance itself, hashed or grated in such a manner as to be easily swallowed and digested. The end proposed is to cause the muscular substance itself to pass into the digestive tube, and beef-tea has no more effect upon the diarrhœa of children at the breast, than the excellent decoction of meat, praised by Liebig. These two liquid aliments, from the simple fact of their fluidity, traverse too rapidly the intestinal canal. By giving the meat in pap, the solid parts sojourn longer in the intestine, acting by contact, and being able, by exciting the intestinal mucous membrane, to stimulate absorption; it is also probable that this means contributes to neutralize the acidity of the gastric juice. I cannot partake of the hope expressed by Dr. Beer, of seeing cod-liver oil replaced in the *Materia Medica* by hashed raw meat. Each of these excellent remedies has its sphere of action marked out in the treatment of the diseases of infants; raw meat combats the diarrhœa of the newborn; cod-liver oil triumphs over rachitic affections with or without atrophy.

The treatment of infants by raw meat has come into general use at St. Petersburg, and this use has been propagated rather by proofs of its good effects, than by special writings. The most part of our confrères, employing it with the ordinary means have failed, have also verified the good results obtained by myself. So far as it concerns myself, I have employed this treatment in nearly two hundred cases, and the result has been always satisfactory when the disease was taken in time. I say

when the disease was taken in time; for, if the malady is too far advanced, and has assumed the characteristics of gastro-malacia, (softening of the stomach,) a cure is rarely obtained. Sometimes, even in these circumstances, we may succeed in calming some symptoms so fatiguing to the little patient, such as the inextinguishable thirst, and the vomiting.

In a large number of patients cured by raw meat, verminous affections have been observed, and particularly tænia, otherwise very rare at St. Petersburg. Dr. Braun stated this as his opinion, and two years after, a high authority, Prof Von Siebold, of Munich, expressed the same idea, in the last paper of his interesting work, "*Weber die Band und Blasenwürmer*," Leipsic, 1854: "We should no longer be surprised at the fact, and must credit those physicians who have declared that they have found in many patients submitted to a diet of raw meat, the tænia. And Herr Von Siebold has remarked that in every case the tænia solium was found, and he believes that in all probability, this worm, which is not indigenous to St. Petersburg, has been brought there by the cattle driven from Tocherkask and Podolia. Some weeks before my departure from St. Petersburg, in the month of June of the present year, a tænia, more than ten feet in length, was sent to me by a confrère, to whom I had warmly recommended meat in the case of an infant aged 18 months. The tænia was expelled after the administration of the etherial oil of male fern. This remedy was employed because the child, having been cured of its diarrhœa by the raw meat, had several times passed parts of tænia.

I ought not to forget to say that in the hospital for children, which is in my charge, I have often tried, but unsuccessfully, the raw meat in the diarrhœa of children more aged, who were sick from no cause connected with dentition. More frequently this diarrhœa was caused by ulcerations of the intestinal canal.—[Excerpta translated from *L'Union Médicale*, by S. E. C.—(*N. Orleans Med. and Surg. Journal*).

Action of Mercury on the Secretion of Bile.

AMONG the effects of medicine which are usually considered to be well established, the action of mercurial preparations in increasing the flow of bile has been admitted without question. Physicians speak about stimulating a sluggish liver by blue pill, or calomel, as if it were not only the easiest thing in the world, but as if we had ocular demonstration of the process; and the frequency with which the liver is thus stimulated to an increased secretion of bile, is in proportion to the ease with which it is supposed this may be effected. No matter what the disease, it

is the commonest thing to begin the treatment by an active mercurial purgative.

Some experiments by Dr. George Scott, of Southampton, England, made on dogs, with a view of ascertaining whether mercury really increases the flow of bile, lead to the conclusion that the hitherto-received opinions on this subject, are erroneous, and that calomel, at least, does not increase the biliary secretion. Having ascertained the average quantity of bile secreted in twenty-four hours, by collecting it in a vessel, after the common duct was tied, Dr. Scott administered calomel to the dogs, and then noted the amount of bile, the quantity of food and drink taken being the same. The four experiments of Dr. Scott all gave the same result,—that *there was a diminution in the amount of bile secreted after the administration of large doses of calomel*. If these experiments should be confirmed by future ones, a revolution may be expected in the treatment of diseases supposed to be connected with a deficiency in the biliary secretion; and that much-abused organ, the liver, will be allowed some rest from the incessant appeals which are made to it, as the source of so many functional diseases. We are glad that Dr. Scott has undertaken to investigate the effects of calomel on the liver by direct experiment. We hope he will continue his researches, and extend them to other subjects connected with the action of medicines. There is no department of our science in which so little is known, or in which more light seems capable of being thrown by direct experiment.—*Boston Med. and Sur. Journal*, and *N. Y. Monthly Review*.

Defective Assimilation in Infants—its Prevention and Treatment.

Dr. ROUTH read a paper on this subject before the Medical Society of London. The object of the paper was to show that most of the mortality of infants was due to defective assimilation. Defective assimilation was almost always the result of want of breast milk and the use of injudicious food; the disease was most effectively prevented by supplying this milk. Dr. Routh then detailed the result of breast milk exclusively given, artificial food without breast milk and with it, or the development and mortality of children, from tables of Messrs. Merei and Whitehead; from which he showed that in proportion as breast milk predominated, in proportion was good development observed, and *vice versa*. He then showed that the most frequent diseases amongst children were abdominal diseases, occurring in the proportion of 23.4 per cent.; developmental diseases in that of 8.8 per cent. of all cases; rachitic diseases constituting 3.2 per cent.; atrophy or marasmus, 5.2 per cent. He believed, however, that all these were produced by defective assimilation, the former in most

cases being sequelæ of it; atrophy or marasmus being only the more marked and characteristic stage.

Dr. Routh then described the disease as consisting of three stages: first, or premonitory, in which peevishness, some loss of flesh, occasional attacks of indigestion, acid eructations, &c., were most prevalent; in the second stage, *emaciation* was more marked, eyes became unusually bright, much loss of digestive power, sometimes with diarrhœa and lientery; third, or exhaustive stage, generally attended with diarrhœa, aphthæ, frightful emaciation, complete loss of digestion, &c. Sometimes the disease from the second stage passed on to tuberculosis, rachitism, and most developmental disorders, and not to the third stage.

Causes.—The predisposing causes were—hereditary tubercular habit, and exanthemata; exciting causes—bad air, want of cleanliness, injudicious food, and especially an atmosphere contaminated by too many children being congregated together.

Post-mortem Appearances.—Three kinds: emaciation very great, loss of adipose, cellular, and muscular tissue, in all varieties; but in one, where diarrhœa has been present, red patches, or aphthæ over the alimentary mucous membrane, these aphthæ often containing the *oidium albicans*. In other cases, also with diarrhœa, the mucous membrane exuding a reddish coloured mucus, intensely acid. In others, without diarrhœa or with it, Peyer's glands projecting, and enlarged in patches, as in Asiatic cholera. In all, undigested matter in canal, with very fetid fecal matters.

The disease seems to be gradual, passing on to entire loss of *primary* assimilation: the secondary still persisting, although inactive from want of assimilable matters to take up. Albuminous, starchy and oily matters were not digested.

The *treatment* consists in supplying fatty acids and already artificially digested animal, and occasionally vegetable substances, especially human milk. If this could not be sucked, it should be collected in a cup and given by the spoon. Dr. Routh strongly animadverted here upon the absurd dogma, that it is wrong to mix human and cow's milk. He, on the contrary, believed the plan not only safe, but the very best practice in many cases, and the only means of saving an infant's life. Simple juice of meat, and this with vegeto-animal food, he had found most useful in fulfilling these indications. The remedies were of two kinds: 1st. Those calculated to increase cell growth and development. Phosphate of soda producing an emulsion with fats, thus allowing of their assimilation; chloride of potassium, to dissolve carbonate of lime; phosphate of lime, to enable the blood to take up more carbonic acid, and thus hold in solution more carbonate of lime, (these substances severally strengthen-

ing muscular and bony structure); lime-water, to provide lime to blood. 2d. These last also acted as some of the remedies calculated to allay local irritation of the alimentary canal. Carminatives were useful, such as dill, but especially cinnamon-powder, to correct flatus and to check diarrhoea. Anodynes were also (however objected to generally,) strongly recommended by the author. For the diarrhoea, when present, nitrate of silver and sulphate of copper were the best remedies. Wine was also found very serviceable, even if given in large quantities. These remedies, however, it must be confessed, proved in most cases of no avail in the third stage, which was, he might say, almost incurable; but they acted very effectively in the second and first stages.—*Lancet* and *American Journal*.

Perineal Section for Cure of Stricture of the Urethra.

Mr. HENRY SMITH states, that "about a fortnight since I had in my house on the same morning, two unfortunate gentlemen, in the prime of life, who had undergone the perineal section; one, five years since at the hands of a London surgeon of large experience; the other, three years previously, had been cut by Mr. Syme himself in Edinburg. They were both in a wretched condition; the one had his perineum riddled with three fistulous openings, but as Mr. Syme himself was not the operator here, the proceeding was of course unskilfully and improperly done, and I will say no more about it. The other case, however, was treated by Mr. Syme himself, and the operation was of necessity done according to the rules laid down by that surgeon. Yet, where is the complete remedy? The unfortunate gentleman assured me, that before he left Mr. Syme's care after the operation, he felt the stricture returning, and that notwithstanding he persisted in passing the instrument every fortnight, as he was told to do, the canal contracted, so that he was unable at the expiration of ten months to pass anything at all. Since then he has been roaming about from one surgeon to another, in the hope of getting his stricture dilated. When he first consulted me some six weeks since, I could only with the greatest perseverance, succeed in introducing a small No. 4 catheter, although a distinguished surgeon in Dublin had introduced a No. 8 only a fortnight previous. There was no fistulous opening left here, as in the other; but there is the irritability and contractility of the urethra as before, although Mr. Syme performed the operation himself, and according to the information given to me by the patient, assured him it would be a certain cure. I have before enunciated the opinion, that not only does this operation not prevent the return of the stricture,

but that the recontraction becomes more severe than before. As I had not the opportunity of seeing this gentleman before he was cut, I cannot positively state whether this holds good here or not; but that the induration still remained, or had reformed at the site of the old disease, was quite evident by running the finger along the perineum. Cutting cannot possibly get rid of this; and so long as this remains, the stricture will persist.—*London Med. Times and Gaz.*

Cancerous Ulceration close to the inner Canthus, treated with Sulphate of Zinc Paste.

Dr. WILLIAM MACKENZIE, of Glasgow, relates the following interesting and instructive case. A patient, aged apparently about forty-five, and who attributed the spread, if not the origin, of his complaint, to the depression of mind arising from pecuniary loss, applied to me on the first of February, 1859, on account of a cancerous ulcer on the side of the nose, close to the inner angle of his left eye. It was fully the size of a four-penny piece, of irregular shape, covered with a scab, and surrounded by hard and elevated edges. The papillæ and carunculæ lacrymales, and the palpebral conjunctiva were inflamed, and the disease seemed to be extending in the direction of these structures.

I felt no doubt, that were the ulcer left to itself, it would gradually spread, and prove rebellious to all applications of a soothing description. Having repeatedly found, also, that extirpation of such a disease by the knife, even when care was taken to cut into the sound integuments, although followed by a firm cicatrix and an apparent cure, was succeeded after a time by a renewal of the scirrhus hardness and intractable ulceration. I determined in this case to try as an escharotic, the sulphate of zinc, as recommended by Dr. Simpson, of Edinburgh. I was partly led to this course, too, by observing that I could not extirpate the diseased part without removing the lower papillæ lacrymalis.

Having driven off by heat, the water of crystalization of a few grains of the sulphate of zinc, and reduced the residuum to a fine powder, I mixed it with a little glycerine, so as to form a thick tenacious paste. Taking a little of this on the point of a bit of stick, I applied it over the scab and over the hard edges of the ulcer, and covered the part with dry lint.

Next day, I found that the application had given very little uneasiness; but that it had acted in destroying almost entirely the hard edges of the sore, and left the whole of its surface free from scab and of a florid healthy color.

Two or three times subsequently, I covered the edges again with the zinc paste; after which I left the wound to cicatrize, under the application of dry lint. I touched the conjunctiva and papillæ lacrymales occasionally with the four grains' solution of nitrate of silver, under which application they speedily freed themselves of inflammation.

On the 24th March, the patient called on me, with a firm cicatrice, of a healthy hue, in the site of his former disease.—*Ophthalmic Hospital Reports*, and *Ibid.*

Quinine Ether.

M. EISSEN has recommended in the *Gazette Médicale de Strasbourg*, the use of quinine, introduced into the air-passages, for the treatment of intermittent fevers. The process consists in the inhalation of quinic ether, a combination made by M. Manette, and first used by M. Pignacci, of Milan.

The substance, still incompletely defined, in a chemical point of view, is obtained by means of the distillation of alcohol, treated by sulphuric acid, (theory of ethers,) in presence of the quinate of lime. The product of this distillation is a liquid perfectly limpid, colorless, of an agreeable odor, less volatile than sulphuric ether, but still sufficiently volatile to evaporate at an ordinary temperature without leaving a deposit. It deserves, then, the name of ether; and its therapeutical action, besides, seems to justify the qualification of quinic, which has been given to it.

Quinic ether, says M. Eissen, fills all the necessary conditions of a good therapeutical agent. It acts, at the same time, *tuto, cito et jucunde*. Inhaled in the dose of a few grammes, (2 to 3,) as chloroform is generally employed upon a compress, it checks a commencing access, and prevents a return of subsequent accesses. In all the cases in which it was tried, the access gradually yielded, never to return, when the fever was simple, or under a very mild form in cases of decided cachexia.

Since the first trial upon patients in Lombardy, who could not be suspected of being slightly affected, other trials have been made by Prof. Groh, at Olmutz, and with the same success. The results have been the same: whether the inhalation was made before or during the pyrexia, the access was lessened in character in a marked degree, and the next anticipated access prevented, in the majority of cases; the tumefaction of the spleen disappearing at the same time. The inhalation, far from being disagreeable, was followed by good results, or of a sensation of decided amelioration. We may add that, in their experiments, our learned confrères, whose names we have cited, were

careful to establish negative proofs to confirm their judgment. They submitted a certain number of fever-patients to inhalations of pure sulphuric ether, or sulphuric ether holding sulphate of quinine in solution. The inhalations of pure ether produced no other effect than that of increasing, in an insupportable manner, the hot stage; while in those taking the ether containing the quinine, some anti-periodic effects were observed, after large quantities of the remedy were absorbed; but in severe cases these effects were so slight, after long trials, that the patients themselves solicited more energetic measures.—[*Amer. Med. Mon.*

Vegetation of the Genital Organs—Chromic Acid. [Translated from the Gazette Hebdomadaire for the Boston Med. and Surg. Journal.] By O. D. Palmer, M. D., Zelenople, Pa.

CASE.—C., 23 years of age, of a good constitution, never having been diseased, became pregnant for the first time toward the end of October, 1856. About the same time she was taken with an abundant blennorrhagic discharge. Having arrived at the fourth month of gestation, she experienced a sense of heat and suffering in the genital organs. This painful sensation was produced by the presence of numerous prominences in the vagina, which had replaced the very copious and extremely foetid purulent discharge. Careful cleanliness, injections, and baths, procured no ease. Two months passed, during which the disease was making rapid progress.

C. presented herself at the hospital, where she was admitted on the 30th of April, in the sixth month of her pregnancy. It was ascertained that over the labia majora and minora the vaginal canal, and even the cervix uteri, was a growth of excrescences of considerable size, and in great number. The most voluminous, as large as the fist, projected outside of the vagina. Of these vegetations some were with pedicles, others were sessile; their tints were reddish, their appearance vascular. They were for the most part divided and subdivided, forming ramifications, which in their aspect offered some analogy to the corymb of the millifolium. In the vagina these excrescences had acquired such dimensions, such a development, as to fill all the cavity, and not to permit, without the greatest difficulty, the introduction of the speculum.

In searching for the cause of these vegetations, it was impossible to recognize for them a syphilitic origin. The woman had never had chancres. An attentive examination of the genital parts did not discover any ulceration. There existed no engorgement of the inguinal or sub-occipital glands, no squamous eruption.

In such a state of things we could not but foresee great difficulty at the time of accouchement. It was, then, very important

to find means to destroy this obstacle. For this end, M. Rousset applied, first, crayons of nitrate of silver, then the nitric oxide of mercury. This last means, continued during twenty-five days, with much care, caused very smart pain. Like the preceding, it was not followed by any advantageous effects. Tincture of iodine had no good result.

On the 6th of July, after all these failures, Prof. Rousset had recourse to the use of *chromic acid*. He made application of a solution prepared as follows: R. Chromic acid, 1 part; aquæ distilled., 3 parts. By the employment of a pencil, each excrescence was separately washed with this liquid, having care not to touch the mucous membrane that surrounded it. The patient experienced immediately, in the part touched by the solution, a sensation of smarting and pain, which was calmed again directly. Redness was manifested, a little swelling, in short a slight inflammation, which was terminated by the formation of pus. Some few washings with Goulard's water, and the use of dry lint, constituted the whole treatment. In proportion as suppuration was established, the excrescences were detached, disappearing, and leaving in their place a reddish surface, in some points excoriated, in others ulcerated, very superficially. The cicatrization was regularly and uniformly established.

July 20th, the cure was complete; the cervix uteri, the labia majora and minora, and the vagina, were entirely freed from these adventitious productions, and offered an aspect which was altogether normal.

On the 26th accouchement took place without any accident. The child of the masculine gender, was perfectly formed, and afforded no traces on its body that could cause the mother to be suspected of any affection of a specific nature.

The chromic acid has been extolled, these few years past, as a caustic, both by Dr. Keller, of Germany, and by Dr. Marshall, of London, for destroying vegetations developed on the genital parts. Dr. Marshall uses the acid in solution. Dr. Keller applies it in the form of paste. Whatever process is adopted, this caustic is easily managed; its action is at the same time very rapid, little painful and thorough. We have a right to conclude, then from this case, that in these excrescences the chromic acid is a powerful caustic, and preferable to others that have been hitherto employed.—[CAUSSADE of the School of Bordeaux, and *Boston Med. and Surg. Journal*.

Cases of Suppression of the Urine. By JAMES ALEXANDER, Esq., Surgeon, Wooler.

THE pathology of the disease, described by our older writers under the name of *ischuria renalis*, is little known, and the dis-

case itself is a very rare one. Dr. Abercrombie treats of suppression of urine as resulting sometimes from disease of the kidney itself; sometimes from disease, generally inflammatory, of some adjacent organ; and only very occasionally as proceeding from some unknown cause affecting the nerves of the organ, and leaving few or no morbid traces after death. The same view, substantially, is taken by recent systematic writers; with a strong inclination, perhaps, to refer all, or almost all, cases of suppression to some stage or modification of granular disease of the kidney. I cannot pretend to throw any light on the intimate nature of the disease; nor have I the means of going into the literature of it. But, perhaps the two following cases, which occurred to me very recently, may possess sufficient interest to deserve being recorded in the *Edinburgh Medical Journal*:—

On the 13th February last, I was requested to visit a shepherd lad, aged 16, residing about seven miles from Wooler, who appeared to be laboring under the symptoms of ordinary continued fever, which his friends imagined had been brought on by cold and exposure to wet. He had been ill about ten days. His pulse was about 100; his tongue loaded, and his throat slightly inflamed and painful; he complained of headache, but had little delirium; there was a good deal of restlessness, and his urine was scanty and high-colored; there was no cutaneous eruption. He was ordered some mild aperient, his diet carefully regulated, and, as his pulse was weak, a small quantity of wine was directed to be taken at intervals. On the 15th, the symptoms were nearly the same, but the quantity of urine was very much diminished; on the 16th, totally suppressed; and about midnight of the 17th, he died, just a few minutes before I entered the house. Before his death there was partial stupor, but no profound coma, and slight irregular movements of the muscles of the face and eyes, but no general convulsions.

Five weeks afterward, I was sent for to see a younger brother, who was reported to be ill of the same disease of which the first brother had died. I learnt that, in the interval between the death of the elder brother and the seizure of the one I was now visiting, a sister had been ill, as the people supposed, of the same disease, but had passed through it so mildly that no medical advice had been sought for her. My present patient exhibited similar symptoms to those presented by his brother; he had been ill seven days; there was headache, slight sore throat, great general uneasiness, and already the same noticeable diminution in the quantity of water voided was beginning to manifest itself; there was also some spots on the abdomen resembling the eruption of typhoid fever; but as the youth was liable to an anomalous rash in the spring months, I would not lay much stress on that symptom. The following day the pulse had fal-

len to 70, and became much weaker, and the urine was totally suppressed; there was no delirium and no coma, no pain in the back, nor the slightest tenderness over the abdomen. Free leeching to the region of the kidneys was had recourse to, and repeated thrice in the course of the next three days; the back was rubbed with a strong turpentine liniment; and the bowels opened by compound powder of jalap. After the first application of the leeches, a small quantity of water was secreted, but no change took place in the strength or frequency of the pulse; but gradually, under the use of the remedies mentioned, the pulse began to rise, the urine became more abundant, and the symptoms of affection of the brain gradually subsided, and in a week's time all the symptoms of the urinary affection had ceased. The symptoms of general feverish action ran on for a few days longer; but, in twenty days from the date of the first shivering, the boy was convalescent, and continues to this time in good health.

It must be acknowledged, that it is at least a singular coincidence, the occurrence of two consecutive cases in one family of symptoms so unusual as those I have detailed. The progress of the case last detailed, and the occurrence of the girl's case between those of the two brothers, renders it probable that I am correct in considering these as original cases of ordinary fever; and if so, the urinary symptoms form a complication certainly not usual and not altogether without interest. I have seen, in the course of my practice, besides suppression more or less complete from evident inflammatory affection of the kidneys or adjacent organs, one or two cases of what I believe was genuine ischuria renalis, as described by our older writers; and with a very brief notice of these I shall conclude this paper. My first case occurred in a young man, 22 years old, of unusually dark complexion, and developed itself suddenly. The cessation of the urinary secretion was total in sixteen hours after the accession of the disease, and could be ascribed to no probable external cause. The pulse was slow (under 60,) and there was some degree of giddiness and somnolence almost from the beginning; otherwise the general health was not materially affected. The lad was bled to ten ounces from the arm; leeches were applied to the back; the warm bath was used; and turpentine liniments rubbed on the region of the kidneys, the bowels being sharply acted on by calomel, followed by large doses of cream of tartar. Under this treatment, at the end of sixty hours, a small quantity of urine was passed, which gradually increased, and in little more than a week's time, he had nearly regained his ordinary state of health; nor was the secretion of urine ever subsequently interrupted. Another case occurred in a boy who had passed through an exceedingly severe and prolonged attack of croup,

which had been treated in the usual way, by bleeding, calomel, and antimonials. After having coughed up considerable portions of false membrane, some fragments of which were distinctly tubular, he had seemed, in about nine days, satisfactorily convalescent, the breathing perfectly free, the pulse natural, and all the symptoms of the disease completely gone. The tenth day from his seizure, I was summoned to visit him in haste, and informed that he had made no water for nearly twenty-four hours. To guard against the possibility of mistake, I passed a catheter into the bladder, a precaution which, I forgot to say, I adopted in all the cases I have related, with the result of finding, as I did in all the rest, the organ quite empty. He was treated in a similar manner to the last-mentioned case, but without any benefit, and on the third day he died comatose, not very profoundly so, however, death being preceded, as in the first of the above cases, by slight twitchings of the facial muscles and distortion of the eyes, but not by any convulsive movements of the limbs or body. About a week after the death of this last-mentioned patient, I was requested to visit a boy aged 10, who had not made water for nearly twenty-four hours; the boy was moving about, nor was there the slightest symptom of indisposition discoverable upon examination. His pulse was natural, his tongue clean, his skin cool, his appetite good. His mother had discovered that he made no water while he was in her sight, and upon questioning him he affirmed that he had made none at all, and as his friends lived in the immediate neighborhood of the youth who had died after croup, they took the alarm and sent for me without delay. Leeches, purgatives and other remedies were employed pretty actively, but without the slightest effect in restoring the secretion; the second and third day passed and no water came, still the boy gave no signs of indisposition, and except an occasional warm bath, and attention to the state of the bowels, little or no further treatment was had recourse to. And thus the boy went on *for four weeks*, without voiding during the whole time *one ounce of water*, without any noticeable inconvenience, and without, as far as I could see, any vicarious discharge. There was no urinary smell, either in the fæces or in the sweat, which was little if at all increased. At the end of a month the urine began to be again secreted, and gradually increased in quantity till it reached its ordinary amount, the first portions that were voided producing a good deal of smarting and pain in the urethra, which, however, subsided by degrees. It was, of course, impossible for me to have this boy so constantly under my own eye, as to be able to state from my own personal observation that no urine passed; but his mother was both an intelligent and respectable person, every precaution was taken to prevent mistakes on the boy's part, and

no conceivable motive existed for deception on the part of either him or his mother. I have, therefore, myself no doubt whatever of the fact I have stated. Both this case and the two immediately preceding it were communicated at the time to the Border Medical Society; so, although the cases occurred many years ago, I am quite confident of the accuracy of the facts I have detailed. And I hope they may be deemed sufficiently interesting to deserve a place in a more permanent record.—[*Edinburgh Med. Jour.*, and *Boston Med. and Surg. Jour.*

Epilepsy succeeding a Suppression of the Menstrual Discharge, Cured by the Supervention of Dysentery, and the Restoration of the Catamenia. By SAMPSON EAGON, M. D., of Bot. County, Va.

Miss T. R., æt. 17, had the menstrual function established at 15, and it continued normally until the 17th year, when from exposure of the feet to moisture and cold at one of the periods, the catamenial discharge was arrested. For several periods she suffered the ordinary pain and discomfort of amenorrhœa, and at the fourth month of amenorrhœal suffering, she was attacked with epilepsy; I was at this period called to see her. After an unsuccessful effort to re-establish the catamenial flux, (it being a period,) the patient was put upon treatment for epilepsy, the treatment consisting principally in the use of tonics, antispasmodics, revellents, and emmenagogues. The epileptic convulsions, however, continued to recur with undiminished violence, notwithstanding the treatment was assiduously persevered in for more than twelve months. The argente. nitras, several of the salts of iron and copper, as well as sulphate of quinia, were given a fair trial, but without decided benefit.

The paroxysms in this case were of the most violent character, and lasted for several hours, night and morning of each day. After having fairly tested the virtues of the most popular anti-epileptic means in the case, with so little success, Dr. Woodson, (the consulting physician,) and myself abandoned all hope of relieving her. In July, 1858, dysentery became epidemic in her locality, with which disease she was attacked in a severe form. Having been called again to the patient at this period, and hoping now that the constant tenesmus and irritation of the large intestine might extend by contiguous sympathy to the torpid uterus, I was careful not to arrest the dysenteric discharge too hastily, prescribing only a half grain of opium, with two of the mild chloride of mercury, repeated every eight hours. On the second day, I learned from the patient's mother, that the menstrual discharge was regularly flowing, and I found

the young lady free from epileptic symptoms. The dysentery soon subsided, and the young lady quickly returned to almost perfect health, and is now quite well. The only means that have since been employed in the treatment, have been a pretty active purgative of aloes and rhubarb, conjoined with a warm hip-bath, used for several nights before each expected return.

There are two points of interest, as I conceive, in the case above detailed: 1st. The undoubted relation which here existed between the amenorrhœa and epilepsy as cause and effect; and 2nd. The means employed by nature to produce relief, an irritation propagated from the rectum and colon to the uterus by contiguous sympathy.—[*American Journal*.

After-treatment of the Extraction of Cataract.

THE old method of bandaging the eyes is never practiced in the Central London Ophthalmic Hospital, and the modern one of plastering the eyelids is adopted in its stead. The object is to keep the eyelids motionless and closed, in order that the edges of the wound in the cornea may be kept in accurate adaptation by the gentle pressure of the eyelids. If a patient can keep his eyes shut, no appliance is needed; but few can do this. As the bandages are ordinarily applied, they are useless. To make them potent as bandages, would demand a degree of pressure that must be injurious. Very much annoyance is often produced from the cloth being stuck to the cheek, by the aqueous humor when it trickles away; and the night's rest is broken in consequence. A couple of straps of court-plaster, the eighth of an inch wide, accomplish all that is desired. Mr. Walton generally allows them to remain for a week; but if any unpleasantness is complained of, such as stiffness or hardness, they are removed after the third or fourth day. To this plan, which is wholly unobjectionable, Mr. Walton attaches much value; and he is convinced that the highest attainable results from the operation of extraction cannot be obtained without it. He always keeps the eyelids closed till the aqueous humor no longer escapes from the corneal wound; that is, till the cornea is quite healed. At the end of the week, when the patient has opened the eye, Mr. Walton does not raise the lid himself, but desires the patient to open the eye naturally, which he considers far preferable; he again closes it, if requisite, with court-plaster for some days. There can be no doubt of the prudence of this. Many an instance of prolapse of the iris, with all the irritation and ulterior consequences, has been produced by the use of the eye before there has been proper reunion. Young operators are often sadly puzzled to account for the secondary imperfection of prolapse of the iris, after they have had such promising

results, when the eye was looked at a few days after the operation. This is the solution; the eye is used far too soon, and by the action of its own muscles the prolapse is occasioned.

The great proof of cicatrization of the cornea is the fulness of the anterior chamber. So long as the iris is pressed forwards, and there is not the natural accumulation of aqueous fluid, the eye should be kept closed. A very little attention will enable the practitioner to decide this point.

When the iris is wounded in the operation of extraction, prolapse is very apt to occur under any condition; hence, Mr. Walton lays it down as a rule, that much pains should be taken to prevent the accident. He considers it far better on every occasion to finish the operation with the secondary knife rather than to complete it with the cataract knife; when, by so doing, the iris is not at all injured. The late Mr. Alexander, than whom there never was a better operator, always made the section of the cornea with two knives. As soon as he had effected the counter-puncture with Wenzel's knife, he withdrew it, and completed the section with the secondary knife.—[*British Med. Journal*, and *Nashville Med. Record*.]

[From a valuable summary prepared by Dr. O. C. GIBBS, of Frewsburg, for the *New York Medical Monthly*, we select the following several articles.]

Iodide of Zinc in Chronic Conjunctivitis.—In the *Peninsular and Independent*, for August, Dr. Waggoner, of Oconee, Ill., has a short article upon the treatment of chronic conjunctivitis. After correcting the general health, if deranged, he advises the application of one-sixteenth of a grain of sulph. morphine, dissolved in water and applied with a camel's-hair brush, twice a day, until all irritability is allayed. After this follows the curative treatment, which does not materially differ from that usually put in requisition, except that advised in his concluding remarks. He says, "Latterly I have incorporated in my *materia medica* the *iodide of zinc*, the effects of which have proved satisfactory beyond all anticipation. This drug is passed over in all our standard works on therapeutics, in almost profound silence. In no case, in which I have observed its effects in the treatment of ophthalmia, has it deserved, in my humble opinion, a place second to any other remedy. In one scrofulous case, it acted like a charm. Will not the profession give attention to this very deserving agent, and more fully prove its worth?" The Dr. does not give his formula for use.

Congenital Hernia.—In the same number of the *Peninsular and Independent*, Prof. Moses Gunn, of Detroit, reports a case of

hernia, descending through a congenital passage for the first time after the age of thirty years. If this case is not *unique*, such cases must be of rare occurrence.

Miasmata.—In the *Lancet and Observer* for August, Dr. Harvey, of Springtown, Indiana, publishes a paper upon the above ever vexatious subject. It is difficult to give a synopsis of the paper that will be sufficiently condensed to answer our purpose. He says, "Those diseases originating from miasmatic causes, are produced by a change in the relative proportion of the several gaseous and mineral elements of which the living body is composed; in other words, diseases which appear both epidemically and sporadically, and some others, are produced by the addition to, or subtraction from, the essential elements of the body in health." Again, he says, "In intermittent, bilious, and remittent fevers, the crassamentum of the blood is increased, and darker in appearance than in health. The red globules are darker, and the quantity of serum less than the healthy standard; the fibrin having been either changed to albumen or coagulated to a certain extent. Hence we may infer that there has been *carbonaceous* matter from external sources added in undue proportion, or a decomposition within the body." Want of space will not permit us to give the premises upon which this is based. He adds further, "In such diseases as cholera, dysentery, &c., we must look for other causes; but these may be found in other gaseous or mineral elements or compounds, emanating from similar sources as carbon, and also from the earth. My opinion is, that cholera is produced by the action of *nitrous acid gas* upon the blood. In certain electrical conditions of the atmosphere, the oxygen and nitrogen of the air become chemically united, and form nitrous oxide or protoxide of nitrogen; and these two gasses, being disengaged from decaying animal matter, become united also, with the same result; and the resulting compound floats in the air, and is absorbed through the lungs, skin, food, &c., into the system. I believe that the great amount of moisture in the air, the great heat and electricity every where in those countries where cholera is raging, causes a greater or less chemical union of the elements of the air, thereby producing nitrous acid gas."

The miasmatic element, as productive of disease, and of varying diseases, has been an incomprehensible mystery and vexation to observing physicians for all time, and is likely to be for some time in the future. Some have denied its existence altogether, as an aerial poison, the product of animal or vegetable decomposition, and as causative of endemic or epidemic diseases. We will here instance only S. Littell, M. D., of Philadelphia, who refers such diseases to electrical agencies, and the late J.

K. Mitchell, M. D., who referred them to a cryptogamous origin. That certain diseases occur only when there is a conjunction of certain atmospheric and terrene conditions, is almost universally admitted; that the terrene conditions exercise a controlling influence, is a fact too well established to admit of doubt; and that that terrene condition or element is effluvial, is more than problematical. But why dissimilar diseases from similar causes? That the plague and yellow fever occur only under similar, if not absolutely identical conditions, is well known. High temperature, humid atmosphere, lowness of site, density of population, and animal and vegetable putrescence, with a preponderance of the former, are necessary conditions to the production of a miasm that will develop either of the above-mentioned diseases. If the causes are the same, why not the results? If these conditions develop the plague in Constantinople, why not in New Orleans; and the reverse, in regard to yellow fever? We answer by putting another question. If sugar, starch, and gum-arabic are composed of precisely the same ingredients, in two of the instances, in precisely the same proportions, why are not the physical properties of the resulting compounds identical? If dissimilar substances are isomeric, may not the causes of dissimilar diseases be also isomeric?

Intermittent, remittent, and bilious remittent fevers have also terrene causative relations and dependencies, and those causatives are apparently identical, and always present where these fevers are endemic. The miasm of intermittent differs from the miasm of yellow fever and cholera, but we are not prepared to believe the difference to be what Dr. Harvey suggests. The miasm of an intermittent has a more vegetable origin than that of yellow fever, and its conditions of development are not the same. If intermittent fever has always terrene causative relations, why is not that disease always present whenever those causative relations exist? True to our Yankee instincts, we answer by asking, Why carbon and hydrogen, in the relative proportion of five parts of the former to four of the latter, in combination, are not always oil of turpentine, and not sometimes oil of lemons, as is well known to be the case? Why is not $C_{12}H_{16}O_{16}$ not always starch, when in combination, and not sometimes gum-arabic and gum tragacanth respectively?

This is not the time or place to enter upon controversial ground, the above thoughts are thrown out simply as suggestives.

Laryngismus Stridulus.—In the same number of the *Lancet and Observer*, Dr. R. R. McMeens, of Sandusky, Ohio, reports a case of the above disease, with a few remarks upon its pathology. Dr. Hord, in the *British and Foreign Medico-Chirurgical Review*, declares the exciting and sustaining cause of the disease to

depend upon an enlarged state and disordered function of the liver—a condition of that organ vulgarly termed and treated by nurses as “livergrown,” and the laryngeal difficulty, dyspnoea and spasm of the glottis, are sympathetically excited and secondarily involved; and offers, in support of the allegation, the revelations of twelve autopsies of fatal cases, all confirmatory of the fact. “To the truth of this proposition,” Dr. McMeens says, “I am disposed to differ, from the ostensible efficacy of remedies adapted to such pathological inductions. Cathartic doses of calomel, followed by free discharges of vitiated bilious secretions, were invariably succeeded by a marked amendment, while the absence or deficiency of such secretion was precursor to a decided aggravation of the disease. As an alternative, the proto-iodide of mercury had a most happy influence over the secretions. Dover’s powder usually sufficed to allay any disturbance or pain in the bowels. Frictions along the spinal column were premised for the contractions and insensibility of the extremities, and the inhalation of ether, hyoscyamus, and anise, to soothe the irritability of the larynx and allay cough. Under this treatment, at least, the disease was manifestly modified, and the patient steadfastly improved.

The pathology of this affection has been anything but definitely settled, and anything concerning it we regard with interest. Some, with Drs. Ryland and North, have supposed the disease dependent upon cerebral derangement, while others consider it dependent upon gastric irritation. Dr. Marsh thinks it may proceed from irritation of the pneumo-gastric nerve; while Dr. Ley supposes it dependent upon paralysis of the muscles which open the glottis, in consequence of pressure of enlarged glands upon the recurrent nerves. It is probable that the laryngeal affection is due to a reflex nervous action, the seat of irritation being variously located: sometimes in the gums; at others, in the medulla oblongata; and still at others, in the liver, or any part of the digestive apparatus.

Erysipelas.—In the *Medical and Surgical Reporter* for August 13th, J. R. McClurg, M. D., of Philadelphia, has an able article upon the above subject. In regard to treatment, after the action of an emetic and a saline cathartic, combined with a mercurial, if there be symptoms of billious derangement, he says: “I always use some tonic medicine, and my favorite prescription, and the one I uniformly use in all cases of erysipelas, of whatever form or character, as soon as the system is prepared for it, is,

R.—Spiritus ætheris nitrici,	f. ʒij.
Tinctura ferri sesqui chloridi,	f. ʒij.
Quinæ sulphatis,	gr. xvj.

Misce et S. Take a tea-spoonful every three hours. This constitutional treatment I have found very successful in my hands, and desire nothing better."

This corresponds very nearly to the treatment we have found very serviceable. We are, however, in the habit of prescribing the tincture of iron in a little larger doses, say twenty drops every three hours; and the quinine in combination with Dover's Powders, from one to two grains of the former to five of the latter, every four or six hours.

A Case of Epilepsy Cured.—In the same journal for August 20th, Dr. S. N. Pierce, of Cedar Falls, Iowa, reports a case of epilepsy, cured under treatment in compliance with the following prescription:

R.—Ext. stramonii.

“ conii, ãã gr. xv.

Strychnia, (cry.) gr. ij.

Argent. nitr., ʒij.

et div. in pil. No. xxx.

“Of these,” he says, “I gave three a day. This course was pursued perseveringly, the amount of the strychnia and nitrate of silver being slowly increased, until I found the disease gradually yielding to its influence. I now have the satisfaction of feeling that the disease is subdued.” Patients have recovered in cases of epilepsy under a variety of treatment that subsequent experience has proved to be of non-effect.

One case is quite too limited to judge of the effects of any medicines. The case of Dr. Pierce loses in interest when it is remembered that the improvement at the time of the report was of but five weeks' duration.

Mental Influence on the Products of Conception.—In the *Medical and Surgical Reporter* for August 27th, Dr. Ziegler, of Philadelphia, reports a case of a mother, who, in the early weeks of pregnancy, was badly frightened by what she supposed to be one of her children cutting off the hand of another. She was confined at full time of a child minus the right hand—the radius and ulna terminating abruptly in a stump at the wrist. The editor adds that, four years since, he saw a woman delivered of a child with a deformed nose, which was in exact resemblance to that of an unfortunate girl's who lived next door, who had a cancer of the nose.

The first case was doubtless a case of spontaneous intra-uterine amputation, caused by the cord being wound around the wrist. The second was doubtless a case of incomplete development, which occasionally occurs as freaks of nature, of which

hare-lip is a sample. We once saw a nasal deformity similar to the above, but the lip was cleft. We hope our women are not going to reproduce all the deformities they see.

Strychnia in Chronic Intermittents.—In the *New Orleans Medical News and Hospital Gazette*, Dr. Harrison, of Arkansas, has an article upon the use of strychnia in chronic intermittents.

The following is his formula:

“ R.—Strychnia,	gr. iss.	
Sulph. Quinine,	gr. xv.	
Capsicum,	gr. vj.	
Brandy,	℥ iv.	M.

“Of this mixture, I direct one tea-spoonful (for an adult) every hour, for six or seven hours preceding the expected paroxysm; at the end of this time I require the patient to take a cup of warm sage tea, and go to bed, (if he is not already there,) and remain until the paroxysmal hours pass. This course is to be repeated on the next ‘chill day,’ after which a tea-spoonful of the medicine is to be taken two or three times per day, until the four ounces are exhausted.”

With Dr. H. F. Campbell’s views of the nature of this disease, and its relation to the nervous system, the philosophy of this treatment becomes at once apparent. This, however, is not altogether new treatment. Dr. Brainard, of Chicago, recommended strychnine, in an eighth-of-a-grain dose, three times a day, in similar cases, more than twelve years ago. (*See Indiana Medical Journal* for July, 1847.)

We are confident that the remedial powers of strychnia are not yet fully brought out. So far as we know, we were the first to use and recommend it, in *sciatica* and chronic rheumatism; and we have seen cases of dyspepsia and chronic costiveness yield to it like a charm.

Secale Cornutum in Disturbance of the Accommodation-power of the Eyes.

WHEN local hyperæmia is dependent upon a laxity of the walls of the bloodvessels, advantage attends, Professor Willebrand, of Helsingfors, states, the employment of *secale cornutum*. He was induced to use it in these cases by the expectation that a means which acts so specifically upon the unstripped uterine muscular fibre must excite some power over the analogous structure of the arteries, and which its hæmostatic action proves, in fact, that it does. During his investigations he soon became struck with the fact that the heart of persons employing it soon underwent contraction in all its dimensions, and that even

within the first twenty-four hours—a circumstance which he has frequently verified since. The first case that came under his care was an example of exophthalmos, accompanied with enlargement of the thyroid gland and hypertrophy of the heart. After a few weeks' use of the secale, the hypertrophy of the heart and thyroid, as well as the projection of the eye, much diminish. The patient however left off the medicine, and the exophthalmos returned worse than ever. Since that period he has employed the secale in various cases in which increasing contractility of the muscles of the bloodvessels or other tissues seemed to be indicated. It was found of especial advantage in a disturbed state of the accommodation-power of the eye, especially induced by over-taxing the organ on small objects with an insufficient amount of light. Children from some of the schools have furnished the author with many instances, and they have always been relieved by the secale. He relates a case in which impaired vision was always brought on by sewing or reading, and wherein the signs of some amount of chronic congestion were visible. Relief rapidly followed, and when the affection recurred some months after, it was as speedily relieved. He has also found the secale of great use in several cases of acute or chronic inflammation of the eye, and especially in blepharitis and the pustular conjunctivitis of children, the case proving much more rapid, and relapse being much less rare, than when local means alone are relied upon. No benefit has been derived from it in granular conjunctivitis and trachoma.

Proceeding upon the theory of its stimulant action upon the vaso-motoric nerves, the author has extended the employment of the secale to other local disturbances of the economy; and, as already observed, he has had frequent occasions of observing its transitory influence in hypertrophy of the heart, without having any reason to believe that it is of any permanent utility in affections of this organ, the heart always returning to its former size soon after the use of the secale has ceased. In many cases of both chronic and acute hyperæmia it has proved of great service, and especially in cases of galactorrhœa, and in indurations, tumefactions, and catarrhal affections of the uterus. Also, it has been very useful in enlarged spleen from intermittent fever, and when large doses of quinine have failed. It is especially indicated in the cases of relapsing intermittent depending upon enlarged spleen. In erysipelatous affections, it has often done good service applied externally as a cataplasm. The author formerly gave ten grains *ter die*, but now gives but five, combining it with magnesia, or, when chlorosis is present, with iron.—[*Brit. and For. Med. Chir. Review*, and *Am. Jour. of Med. Sciences*.

The Reparative Process in Human Tendons after Subcutaneous Divisions for the Cure of Deformities.

W. ADAMS, Esq., read before the Royal Medical and Chirurgical Society (June 28) a paper on this subject, illustrated by a series of specimens and drawings from fifteen post-mortem examinations. Specimens of reunited tendons after division were exhibited from ten cases, and also drawings, made by Ford, of the recent appearances in thirteen cases, at periods between four days and three years after the operations. These specimens had been collected by Mr. Adams during the last eight years, and were principally from patients operated upon at the Royal Orthopædic Hospital; but for two specimens he was indebted to Mr. Erichsen and Mr. Curling. After alluding to our present scanty information on the subject, and describing the recent appearances in fifteen cases, the author gave a general summary of the reparative process, describing—1st. The immediate results of the operation. 2dly. The commencement and nature of the reparative process. 3dly. The general appearance and structure of the newly-formed connective tissue, or new tendon. And 4thly. The junction of the new with the old tendon. This was followed by an account of the circumstances which may interfere with the perfection of the reparative process, or entirely prevent it, so that non-union of the divided tendon may result. Complete failure of union had been witnessed by the author only in the posterior tibial tendon, but it appeared that there is considerable risk of such an occurrence whenever tendons are divided in or near to dense tubular sheaths. It was shown that imperfect union might result either from some constitutional defect in the reparative powers of the patient, or from injudicious after-treatment in a variety of ways, but principally from too early and too rapid mechanical extension. The conclusions which the author considered to be established by the above series of cases were arranged under nine different heads. It was stated that tendon is one of the few structures of the body capable of reproduction or regeneration, and that the newly-formed tissue acquires within a few months of its formation the structural characters of the old tendon so perfectly, as that, under the microscope, it is with difficulty distinguishable from it; but it does not acquire through its substance the uniformly opaque, pearly lustre of old tendon; in the mass it retains a greyish translucent appearance, so that the recent section affords an easy method of distinguishing the new from the old tendon. The greatest length of perfectly formed new tendon which the author had seen was two inches and a quarter, and this was in the tendo-Achillis of an adult, a year and a half after it had been divided by Mr. Curling. That the process by which new ten-

dons is formed is essentially similar in animals and in man ; that the perfection of the reparative process is in direct proportion to the absence of extravasated blood and inflammatory exudation ; and that the sheath of the tendons, when consisting of bone-textured areolar tissue, as in the tendo-Achillis and other tendons surrounded by soft tissues, is of importance—1st. In preserving a connection between the divided extremities of the tendon. 2dly. In furnishing the matrix in which the nucleated blastematous, or proper reparative material, is effused. 3dly. In giving definition and form to the newly-developed tendinous tissue. That the new tendon always remains as a permanent tissue, and as an integral portion of the tendon, the divided extremities of which it has been formed to reunite. In the specimen exhibited, in which Mr. Adams had divided the tendo-Achillis three years previous to death, an inch and a quarter of new tendon was clearly traceable. The average length of new tendon formed in children to reunite the divided extremities of the tendo-Achillis, Mr. Adams considers to be from half an inch to an inch, and in adults from one to two inches. The author considers the facts adduced in this paper were amply sufficient to disprove the linear-cicatrix theory—the theory at present in vogue, and supported by all his colleagues—which assumed that the newly-formed tendinous structure has a disposition to undergo a process of gradual contraction, such as we see taking place in the cicatrices of the skin after burns, to which it has been compared, and that ultimately it becomes absorbed, the muscular structure at the same time becoming elongated by the force of the contraction of the cicatrix, so as to allow of the reapproximation of the ends of the divided tendons, and the formation of a linear-cicatrix. From the present observations it appeared that in the cure of deformities, muscles are elongated by the increased length of their tendons, obtained by means of subcutaneous division, and the development of new tendon formed for the purpose of reuniting the divided extremities of the old tendon. The mechanical and physiological effects of this increased length of the tendons were described ; and lastly the author stated that when recontraction of the foot takes place, and the deformity returns at a distant period after tenotomy, this does not depend upon absorption of the new material, or new tendinous tissue formed previously to unite the divided extremities of the old tendon, but upon structural alterations taking place in the muscular tissue. In three cases of relapsed deformity of the foot examined by the author, the new tendinous tissue formed after the previous operations remained, and could be easily distinguished from the old tendon. These facts were regarded as additional evidence against the linear-cicatrix theory.

[*Med. Times and Gazette.*

Incision in Anthrax.

MAURICE H. COLLINS, Surgeon to Meath Hospital, says (*Dublin Quarterly Journ. Med. Sciences*, August, 1859) that "the incision into anthrax, whether made early or delayed till sloughing has done part of the surgeon's work, must be deep rather than extensive. Usually it is said anthrax is a flat swelling. The fact of its flatness, or rather of its extent, hides the real amount of elevation, which is, in most cases, considerable. Hence incisions into anthrax seldom go down *through* the inflamed skin and areolar tissue. But even if they did go down to the fascia, they would fail in effect unless they also went through it. The fascia is highly inflamed in anthrax; in fact the essential difference of anthrax from furuncle consists in the inflammation being deeper and implicating the fascia. When fascia is inflamed, much plastic exudation takes place, both in its substance and under it; and the tendency of anthrax to spread indefinitely is to be thus accounted for. The pent-up plasma, quickly producing pus and slough, can get no vent until there is an adequate opening in the fascia, and this opening should be made by the surgeon as early as possible, if he would avoid the unpleasantness of useless and repeated cutting, and the extensive sloughing which will occur if he neglect to make it. Plastic exudations find great facility in travelling under the fascia, dissecting and destroying its vascular connections, and ultimately causing much of it to perish. This is well known, as a general principle of surgery, and it is strange to find it overlooked as the cause of the spread of anthrax. We readily acknowledge the mischief it does in periostitis, in diffused inflammations of erysipelatos character or connected with paronychia, and in many other analogous cases; but books of surgery are, for the most part, silent about it in the case of anthrax. And yet every one must have observed phenomena which can only be explained by it. The extent and mode of extension of the swelling, the real depth to which the surgeon must cut if he is to do good rather than harm, and the fact of large flakes of fascia ultimately coming away as dead core (in addition to areolar tissue), leaving the underlying muscles bare, must have been often observed, and must often, doubtless, have had their influence on the practical observer; but the junior surgeon and the pupil have not been shown their practical bearing. The rule I have given above, to cut deep rather than wide, is founded on the observation of these facts, and will be found satisfactory, saving the surgeon the opprobrium of cutting twice or oftener without benefit to his patient. It is very easy to know when we are deep enough; by taking hold of the flaps made by our crucial incision, we feel if they are quite loose. Our incision is not deep enough un-

less we can lift up the point of each flap with ease from the parts underneath. This cannot be done unless our knife has gone through the fascia, and made a crucial incision in it almost as extensive as in the skin. The wounds we have made should be almost as deep at their extremities as in the centre, where they intersect. If we have made our incisions early, before actual sloughing has commenced, as we sometimes, though rarely, have an opportunity of doing, the flaps will curl up if the wound is deep enough, and will leave a widely gaping wound; but if we do not see the anthrax until more or less of the skin is undermined and dead, the gaping of the wound will not be so marked, and the best test is the one I have given above, of lifting the flaps with a forceps, and proving that they are loose. If this rule is followed, we shall have few cases in which we must come and cut again.—[*Am. Jour. of Med. Sciences.*]

EDITORIAL AND MISCELLANEOUS.

A CONVENIENT FRACTURE APPARATUS.—About a year ago, we purchased the Fracture apparatus gotten up and improved by Dr. Welsh. We have since applied the various portions of it, to nearly every variety of fracture, and are much pleased with the comfort it affords to the patient, as well as with its great convenience of application and security in maintaining proper coaptation. In a case of extensive gun shot wound of the leg, with fracture of the Tibia, we found the fracture-box a most valuable means of keeping the injured limb quiet, while it admitted of the dressings being applied to wounded soft parts, with the utmost convenience. The splints for fracture of the fore-arm are light, and seem adapted to every variety of fracture in this region. But we are particularly pleased with that portion of the apparatus intended for fractures of the humerus—high up. This splint consists of a trough of thin material, which is fitted upon the outer side of the arm, while a cap, attached by a hinge-joint, passes over the Deltoid and rests upon the shoulder. This appears to us to be one of the most efficient and convenient arrangements for the treatment of a variety of injuries in the neighborhood of the shoulder joint, which we have ever seen. Its most striking advantage being that all the pressure of the splint is made on the *outer side* of the arm, while the nerves and bloodvessels on the inner side, which every surgeon knows become very intolerant of pressure in fractures near the axilla, are almost entirely relieved from compression.

We have particularized the above pieces, as having given us special

satisfaction, but we regard the entire apparatus, with but few exceptions, as one of the most complete and useful modifications of the various appliances for fracture, which has been presented to the Profession for many years.

We would advise those of our readers who may wish to supply themselves with the above apparatus, to insist on having from the agent, an *application* of the various pieces, especially the more complicated ones, before he leaves, otherwise, they may be subjected to much annoyance and the patient to much pain, while they are *learning how to apply* the apparatus.

This request will doubtless be readily acceded to, by the highly intelligent and urbane gentleman, who is now presenting this apparatus to the notice of the Profession in this section of the country.

NECROLOGY.—We take pleasure in complying with the request to present the following pleasing Tribute of Respect. We add no word of comment. Those who knew him better than we, have better recorded his many virtues.

TRIBUTE OF RESPECT.

At a meeting of the physicians of Montgomery, Ala., called to express a sense of their loss in the death of Dr. A. B. McWhorter, Dr. Baldwin was called to the Chair, and Dr. Seelye was appointed Secretary.

On motion of Dr. Norton, a committee of three was appointed to prepare suitable resolutions for the consideration of the meeting. Drs. S. E. Norton, R. S. Wilson and W. P. Taylor were appointed said committee, who shortly reported the following preamble and resolutions:

An eminently worthy and useful man has been called from our midst. Through a long life he has passed with a character unstained; life's labors were performed with manly integrity, and its enjoyments were received with thankfulness.

He came up to the measure of his duty as a physician. Many remember him for his skill, devotion, and humanity. Science and religion found in him a willing worker. Ready with his skill and his means, he has worked well. An all-wise Being has called him from earth to a higher, nobler life. Let the memory of such a man live with us. Let his devotion to our profession, his high-toned morals, and his active benevolence, stimulate us to the discharge of our duties; that like him we may come well to the end—loved, honored, remembered.

It is fit that we should express ourselves on this sad occasion. Therefore,

Resolved, That the decease of Dr. McWhorter, calls pre-eminently upon us, as a profession, for an expression of sentiment—so long among us—active, useful, beloved—we realize that a good man has indeed fallen.

Resolved, That not only has the profession sustained a loss, but the community which he has so long adorned, has cause for profound sorrow in this lamented death.

Resolved, That we unaffectedly sympathise with the family of the venerable deceased, and do hereby, as a body, tender our profound condolence.

Resolved, That we attend the funeral, this afternoon, and that we wear the usual badge of mourning for thirty days.

On motion it was ordered that the city papers be requested to publish these proceedings, that the family be presented with a copy, and that they be also published in the New Orleans and Augusta Medical Journals.

S. D. SEELYE, Secretary.

September 20, 1859.

Woman's Home Book of Health. By John Stainback Wilson, M.D., of Columbus, Ga.

We are gratified to learn that the above work, which we noticed in these pages some months since, will soon be issued from the house of Messrs. J. B. Lippincott & Co. The readers of this Journal are too well aware of the ability of the author of the above forthcoming work, to require from us, his recommendation, as he has long been a frequent and valued contributor to our pages. On the appearance of the work, it will afford us pleasure to call attention again and more definitely to its merits.

Inductive Electricity, or Faradization, in Lead Colic.—Of late, much attention has been paid in France to the employment of electricity by induction, or Faradization, as it is called, in the treatment of certain diseases. Briquet, of La Charité, has employed this with success in the treatment of the paroxysms of colica pictonum. The application is not devoid of pain, and the latter is, at times, so great as to demand the anæsthetic aid of chloroform during the operation. A wet sponge is attached to one wire of the apparatus and placed at the upper portion of the recti muscles, and a metallic brush being applied to the other, it is passed over the part of the abdomen most painful, and this is continued until redness is produced, when the pain will disappear. The operation may require repetition in some cases; but if twenty-four hours pass without the re-appearance of any pains, no further application of the process will be required. The after-treatment consists in a sulphur bath every other day; the internal administration, daily, of about four pints of lemonade, containing from thirty to forty drops sulphuric acid.

"A gum portion is also prescribed, containing from thirty to forty grains of alum; and each night, or every alternate night, as the case may be, a pill is ordered, containing one grain of the watery extract of opium. * * In almost all cases, Briquet has remarked that the bowels begin to act spontaneously from one to three days after the Faradization has accomplished the removal of the abdominal pains." This treatment is interesting from its simplicity, as compared with the complex routine heretofore used at this hospital, in the treatment of

colica pictorum. The latter extended over six days, and was probably one of the last relics of ancient medication to be found in modern hospitals. Our readers will find it given in detail in Nevins's translation of Trousseau and Reveil's *Prescriber's Hand-Book*.—[*Ibid.*]

Nocturnal Incontinence of Urine.—A writer in the *Bulletin de Therapeutique*, recommends the employment of mastic in these cases. It is given in pills made with syrup. It is necessary that thirty-two grammes should be administered in four days, if the child is over ten years of age; when under that age, the amount mentioned should be given in six or eight days. If a cure does not result from the first trial, a second trial with a like quantity should be made. But if the incontinence persists after the second trial, it is useless to continue the medication. The failures are, however, exceptional, as two-thirds of the cases have been successful, even in patients from 18 to 24 years, who had been affected with this disgusting infirmity from infancy.—[*Ibid.*]

Value of Scientific Services.—It is a most common complaint among scientific men, that when called upon to do any service for the public, their labors are generally miserably paid, it being thought sufficient to have the honor of doing the work. It has become necessary for them either to take the ground that they will not perform these services, which many do, or for some one to take the initiative in making the value of scientific labor appreciated. We are glad to see that the example has now been set by Prof. Doremus, of this city. For his chemical analysis in the Stephens case, in which two entire bodies were analyzed, and which was by far the most complete investigation ever attempted, he has charged and received \$3,000 for his services, and \$800 for new apparatus. This analysis will be of incalculable value to justice, and will be referred to as long as law and science exist. We are gratified to see that such a service has been appreciated; though for the amount of actual labor expended, which we have not space to detail, the pay is certainly not too much, if, indeed, it be sufficient. We hope at some future time to be able to present to our readers an account of the medical points in this interesting case.—[*N. Y. Monthly Review.*]

Excitement from Fast Traveling.—Lord Shaftesbury says: "I have ascertained that many persons who have been in the habit of traveling by railway have been obliged to give it up, in consequence of the effect upon the nervous system."

In our own experience of railway traveling, the dozy, listless appearance of the travelers would incline to the opinion, that it is rather productive of tranquility than nervous excitement. Of course this opinion does not include railroad collisions, etc.; when the individual, if not entirely annihilated, might probably be somewhat excited. But for that excitement, the fast traveling could not be blamed, as it would then be at an end. The passenger would then be like the Irishman, who said that he was not hurt by the fall, but "stopping so quick."—[*Med. and Surgical Reporter.*]

Publications of the Sydenham Society.—The following works are announced for the year 1860 :

“Clinical Memoirs on Abdominal Tumors and Intumescence,” by Dr. Bright; edited by Dr. Barlow. A Year-Book for 1859, on Anatomy and Physiology, Medicine, Surgery, Diseases of Women and Children, Forensic Medicine and Toxicology. French’s “Clinical Account of Diseases of the Liver.” Hebra’s Atlas of Illustrations of Skin Diseases; and Professor Simpson offers to edit a reprint of Smellie’s Midwifery.—[*Ibid.*

The Workhouse, as pictured by Dickens, is, at even this time, no myth.

The *Medical Times and Gazette* says, that a visitor at the Cork Workhouse was shocked at the appearance of the children, of whom a large number are maintained in the building. Upon investigation he discovered that an enormous proportion were afflicted with scrofulous diseases; many of them dying prematurely; others becoming blind; and those who survived, dragging on a miserable and feeble existence to which death itself would almost appear preferable.

Dr. Callanan says, when examined on oath before the Poor Law Inspector: “On the day I arrived, it was the hour the boys were at dinner. I examined the food, and after their meal I inspected it. I asked for a bowl of the soup; I examined and tasted it, and I found it almost perfect water. I asked of what it consisted, and was told of rice, oatmeal, and vegetables; some green leaves of leek were in the soup. I went along the form while they were at the meal, and I found some of the porringers untouched. I asked them why they did not take their soup, and they said they could not drink it. I saw the bread, and thought it very inferior; it smelled sour, and was heavy and gluey.”

On this evidence, says the above journal, Mr. Arnott makes the bitter remark, that in Dickens’ “*Oliver Twist*,” the workhouse-boy astonishes his superiors by *asking for more*,—but in the case of the Cork Workhouse-boys, they prefer starvation itself to eating the food placed before them.—[*Ibid.*

Gallows Confession.—We have before noticed the heresies which afflict all varieties of quacks, when they attempt to band together for the purpose of attracting public attention and mutual admiration. This has been evident in such meetings as the late Homœopathic Convention, in which it was admitted that a portion of the order were inclined to merge into “*Electicism*.” And now a noted homœopath, Dr. Hering of this city, whom we have looked on as the very personification of homœopathy, and who, we supposed, relied on it with the devotion of a fanatic, yields with an honesty not to have been expected, the following acknowledgment, which we copy from an article by him in the *American Homœopathic Review*.

He says: “We all know that the numbers in our homœopathic ranks are not lessening; but it is the general observation that the number is year after year increasing, who, instead of deriving benefit from homœopathy, are made incurable by so-called homœopathic practitioners.”—[*Ibid.*

SOUTHERN MEDICAL AND SURGICAL JOURNAL.

(NEW SERIES.)

Vol. XV.]

AUGUSTA, GEORGIA, DECEMBER, 1859.

[No. 12.

ORIGINAL AND ECLECTIC.

ARTICLE XXVII.

An Essay on the Adaptation of Climate to the Consumptive, for a permanent residence ; embracing an Examination of the climate of certain localities of frequent resort ; and also, an Investigation of the degree of adaptedness of the Pacific Climates of the United States. Presented to the Medical Society of the State of Georgia, at its annual meeting, held at Atlanta, April 13th, 1859. By WILLIAM HENRY DOUGHTY, M. D., of Augusta, Ga. (Ordered to be printed.)

(Continued from November No. page 741.)

SUMMER OF OREGON AND WASHINGTON TERRITORY, AS CONTRASTED WITH THE COLUMBIA VALLEY.

Special Climate.—We will first examine the difference of the successive months.

	June.	June to July.	July to Aug.	Aug. to Sept.
	MEAN.	ADVANCE.	ADVANCE.	ADVANCE.
Ft. Orford, Oregon, 2 yrs..	59.°03	0.°70	1.°36	-2.°18
" Astoria, " 1 yr..	59.°53	2.°02	2.°23	-5.°63
" Vancouver, " near 5 yrs.	62.°67	6.°04	-3.°15	-4.°75
" Dalles, C. V. " 3 yrs..	67.°09	6.°13	-2.°45	-9.°06
" Steilacoom, W. T. " 6 yrs.	60.°65	3.°58	-0.°43	-6.°05

There are no sea-temperatures, as in the case of California, with which to compare these various data ; but if we assume those

of the waters, contiguous to the lower part of this coast to be the same as they are to the 40th parallel, and contrast them, we observe much larger differences between the land and sea, than was seen at San Francisco. For June, at the latter place, there was a difference of only 0.36 between them; here it amounts to 2.53 . This is true of Fort Orford, but continued to Fort Astoria, the difference amounts to three degrees, (3.00) notwithstanding the increase in latitude. At the first post of this table, as contrasted with San Francisco, there is a manifest difference in the rate of advance. For notwithstanding some parallelism exists between them in the advance from June to July, indicating perhaps an equal degree of refrigeration at the two points, yet this apparent parallelism is destroyed by the continued advance to August at the former, and the retreat at the latter—the actual difference between them in the degree of advance being 2.04 . It is further destroyed in the progress from August to September, for the difference between them amounts to 3.22 , in favor of San Francisco—there being a decline of 2.18 from August at Fort Orford. These circumstances point to changes in the intensity of operation of the sea-influences, the latter being also less persistent in their action. The degree of refrigeration experienced at Fort Orford, which we have asserted to be in our judgment, the result of proximity alone and not of direct contact of the cold waters with the shore at this point, is much less, and yields much sooner to the continental influences. At Fort Astoria, farther north where proximity itself appears to lose its influence and control, the monthly advance continues to August, and then abruptly declines; the rate of advance from June to July, being about three times that at Fort Orford, and twice that at San Francisco; and from July to August nearly twice that at the first, and four times the second. Here then, (at the two posts,) the history of sea-coast localities generally is manifested, yet so far influenced by the general refrigeration to the south of them, as to determine a uniformly small advance in the monthly means.

Contrasting the immediate coast stations with the intermediate one, Fort Vancouver, we observe vast differences in the course of the thermometer, as indicated by the monthly means in their advance. July here shows the highest monthly mean, corresponding with Fort Miller in this particular, although ex-

tensive differences exist between them in regard to the degree of heat reached, or the position of the thermometer.

The advance from June to July is eight and a half times that at Fort Orford, and three times that at Fort Astoria; and in the progress from July to August, there is a difference of 4.°51 from Fort Orford, and 5.°38 from Fort Astoria. In the Willamette Valley, a much greater degree of heat is experienced than along the coast, but nothing like that contrast which exists between the San Joaquin and the immediate coast of California. As a valley formation, it is both too far north, and too open to external impressions, to show such indications of heat.

Inspecting next the far interior post, we observe the highest mean temperature for June of all the posts, with an advance to July of 6.°13, about that of Fort Vancouver: it also maintains a similar relation to the coast stations. Compared with Fort Defiance, it has a higher mean temperature for June, by 3.°, and manifests less abruptness in the rates of advance and decline from month to month. This is owing doubtless to the excessive altitude of the latter.

2ND. GENERAL RANGE OF THE MEAN TEMPERATURES.

OBSERVATIONS.	JUNE.			JULY.			AUGUST.		
	High'st	Lowest	Range	High'st	Lowest	Range	High'st	Lowest	Range.
Ft. Orford, Oregon, (2 yrs.)	60.°47	57.°58	2.°89	61.°33	58.°14	3.°19	62.°69	59.°50	3.°19
" Vancouver, " (3 to 5 y)	67.°11	56.°85	10.°26	70.°83	67.°40	3.°43	66.°65	64.°04	2.°61
" Dalles, C. V., (3 yrs.)	71.°19	63.°51	7.°68	74.°92	71.°51	3.°41	71.°84	70.°21	1.°63
" Steilacoom, W. T. (5 y.)	63.°00	58.°96	4.°04	66.°73	62.°93	3.°80	66.°82	62.°11	4.°71

Taking the entire region under its present representation, the greatest uniformity is observed in July. Of the individual stations, Fort Orford presents the least variability in this regard, the mean monthly range throughout the season, being only 3.°09. Next in order to this, is Fort Steilacoom, on the extreme northern limit of the coast, whose average monthly range for the season is only 4.°18, notwithstanding its high latitude. At neither of these points however, is this range as low as at San Francisco; nor indeed is that of either of the individual months, for the least fluctuation in the position of the monthly means at the latter was 1.°45 in the month of August, whilst the least in this section was 2.°89 at Fort Orford in June: although the limited

number of observations at the latter scarcely afford comparable measures.

At Fort Vancouver, the first summer month shows an extreme range in its means, the greatest in five years being $10.^{\circ}26$; but during the other two, the greatest range is only $3.^{\circ}43$. But the most remarkable feature connected with it, when contrasted with its analogue, Fort Miller, is the loss of that extreme degree of heat or elevation of temperature, which characterizes the latter. The highest recorded here is $70.^{\circ}83$ in July, whilst at Fort Miller it is $90.^{\circ}92$.

It is in the Columbia Valley, that the highest degrees of temperature are experienced at this season. At Fort Dalles, with three years' observations, the highest mean was $74.^{\circ}92$, and the lowest for the season is one degree higher than the highest at Fort Orford on the coast. Its elevation of temperature is much higher than that of Fort Defiance in New Mexico, the highest there being only $70.^{\circ}95$ in July. Furthermore it also shows greater variability in the range of the monthly means, for at the latter, the average per month for the season is $3.^{\circ}10$, whilst at the former, it amounts to $4.^{\circ}07$. August here presents the least variation of the individual months, but at Fort Defiance shows the greatest. Hence, this valley-situation of Fort Dalles, whilst it secures to it higher measures of heat, at the same time bestows greater fluctuation in the relative position of the means.

3RD. THE EXTREME SINGLE OBSERVATIONS IN EACH INDIVIDUAL MONTH AT THE DIFFERENT POSTS.

	JUNE.			JULY.			AUGUST.			Mean Possible Range for the Season.....
	Observations. Highest.....	Lowest.....	Pos. Range..	Observations. Highest.....	Lowest.....	Pos. Range..	Observations. Highest.....	Lowest.....	Pos. Range..	
F. Orford, Oregon, 1 yr.	77. ^o	46. ^o	31. ^o	76. ^o	46. ^o	30. ^o	75. ^o	48. ^o	27. ^o	29. ^o 33
F. Vancouver, " 3 yrs.	88. ^o	44. ^o	44. ^o	96. ^o	50. ^o	46. ^o	96. ^o	43. ^o	53. ^o	47. ^o 66
F. Dalles, C. V., 2 yrs.	94. ^o	41. ^o	53. ^o	105. ^o	42. ^o	63. ^o	100. ^o	47. ^o	53. ^o	56. ^o 33
F. Steilacoom, W. T...	93. ^o	41. ^o	52. ^o	94. ^o	44. ^o	50. ^o	94. ^o	43. ^o	51. ^o	51. ^o 00

Interesting comparisons of the coast station in this table, with those along the coast of California, might be made if the

time of observation here warranted them. Any comparison under this head, at the present time between this section and other places in different, or even corresponding latitudes, however analogous the climatological influences operating upon them may be, is yet devoid of reliability, because it cannot embrace its meteorological constants. This remark does not apply so forcibly to comparisons of its thermometrical means, annual or monthly; for the reason that there is less liability to material variation or error in the relative position of the means, requiring as they do, a more protracted influence of extraordinary impressions to vary them, than in the case of individual extremes. Therefore we shall forbear to make any contrast of the coast stations here, with those of California, simply stating, that if the highest and lowest points of the thermometer for 1852 at San Francisco be compared with those at Fort Orford, for the same year, they will be found far more conservative. The possible range at the former is much less for each month, and the lowest observed point is much higher. Nevertheless those observed at Fort Orford show a very favorable position of the thermometer, and doubtless will compare favorably with corresponding situations on the same parallel. The highest degree of heat during the record of a single year, is 77° in June, and the lowest is 46° which is recorded in June and July.

At Fort Vancouver, with three years' observations, much greater extremity is manifested; the highest point of the season being 96° in both July and August, and the lowest 43° in August. The possible monthly range increases with the advance of the season, and the extent of the latter is $47^{\circ}66$.

Between this and Fort Steilacoom, higher up but of corresponding relation to the coast, there is great similarity; the highest here being 94° in July and August, and the lowest 41° in June, which gives a greater possible range for the months and for the season.

The greatest degrees of heat throughout the entire space, are recorded at Fort Dalles in the Columbia Valley; the highest single observations being 105° in July, and 100° in August. Nevertheless the lowest position of the thermometer is equally extreme with that of any of the posts of the table, being 41° in June. The observations here recorded, resemble more those ex-

treme ones, already given of Fort Miller in the San Joaquin Valley, than any other post that we have examined; and afford a true index of the real amount of the monthly fluctuation of temperature during the warmer part of the dry season. The mean possible range of the thermometer for the season is very extreme, but is not quite that at Fort Defiance, New Mexico.

4TH. WINDS AND WEATHER OF OREGON, &C.

Between the course of the circulation of the atmosphere along the southern part of this coast, as at Fort Orford, and that of California, similar differences are observed in the summer season as in the spring, with the exception of the extremity of those differences. Here during June, 1852, winds from the south-east and north-west were observed throughout the month, those from all other quarters being almost without record. The greatest force was accorded to the north-west winds. And during July, a total absence from all other quarters was marked; the north-west, still having the greatest intensity. And again, for August, the same record was made. During the season there was a progressive increase of the south-east, and nearly a doubling of the sum of their forces with each monthly advance. The north-west attained its greatest frequency and force in July.

A little higher up at Fort Astoria, where a partial restoration of the mode of circulation at San Francisco and at San Diego was noted during the spring, winds from all points of the compass were frequently recorded for June, although those from the south-east, west, and northwest were oftenest observed of the single ones. But of the relative force of these particular winds, that of the latter was much the greatest. The same general characters were recorded during the other two months, although a diminution in the force and frequency of the north-west occurred in August from July. Hence we perceive a more complete restoration of what may be styled the normal circulation of the Pacific coast, than was remarked in the spring.

Still higher up at Fort Steilacoom, near the northern boundary of the section, during four years' observation, great irregularity in the circulation of the atmosphere was observed. Those from south-east to north-west inclusive, were about the same in

force and frequency, and beyond their irregular predominance, no definite permanent circulation was manifested. Sometimes each was more frequent than the others, but with the progress of the season, the north and north-west increased.

Having arrived at the remaining post, Fort Dalles, we have a record for the entire season of the south-west and west winds as the prevailing ones. The first are the most frequent and the strongest of the two, and increase in strength to July. The north-west winds were infrequent, during the season. The record of the winds in this part of the Columbia Valley, shows much greater regularity in their circulation, and a more special mode of circulation for this season than was noted in the territories to the south of it. It may perhaps be assigned to the absence of those distributing elements (the conjoined valleys, with their excess of heat and aridity,) which so signally interrupt the course of the winds to the interior.

THE STATE OF THE WEATHER AS REPRESENTED IN THE
FOLLOWING TABLE.

		JUNE.			JULY.			AUGUST.		
		Fair.	Clo'y	Rain.	Fair.	Clo'y	Rain.	Fair	Clo'y	Rain.
Ft. Orford, Oregon,	1 yr.	26.0	4.0	1.0	25.0	6.0	3.0	23.0	8.0	2.0
Ft. Astoria, "	1 yr.	12.0	18.0	7.0	13.0	18.0	0.0	13.0	18.0	6.0
Ft. Vancouver, "	3 yrs.	17.33	12.66	6.0	26.33	4.66	3.0	23.33	7.66	2.0
Ft. Dalles, Col. Val.	2 yrs.	24.0	6.0	3.0	30.5	0.5	0.5	26.5	4.5	2.5
Ft. Steilacoom, W. T.	5 yrs.	16.8	13.2	7.6	19.2	11.8	3.0	16.6	14.4	5.2

The respective means for the season are, at

Fort Orford	—Fair	24.66	—Cloudy	6.0	—Rainy	2.0
" Astoria,	— "	22.66	— "	18.0	— "	4.33
" Vancouver,	— "	22.33	— "	8.32	— "	3.66
" Dalles,	— "	27.00	— "	3.66	— "	2.00
" Steilacoom,	— "	17.53	— "	13.13	— "	5.26

The spring season at each of these stations, whether examined in regard to the monthly means of the several divisions of the weather, or the respective means for the entire season, when contrasted with this table, presents many striking and important differences. At nearly all of them, the advance of the dry season, as indicated by an increase in the fair days and a diminution in the cloudy and rainy, is much more

rapid than at San Francisco or San Diego in California; although such a number of rainy days is recorded at each of them as to give a much larger proportion than was observed at either of the latter, and also to indicate that the dry season as understood at California is not so fully established in Oregon and Washington Territory. Nearly two and a half times the number of fair days, that were recorded in the spring, are noted at this season at Fort Orford, and more than three times the cloudy, and about one-seventh the rainy; whilst at San Francisco, there is an actual retreat in the fair days of summer, from those of the spring, and an increase in the cloudy; and at San Diego, for the summer season there is only an increase of 5.16 days in the fair, and a diminution of about five days from the cloudy days. Fort Astoria constitutes the chief exception to the remark above made, for but slight differences really exist between the relative proportion of the fair and cloudy days, although the rainy days comprise only about one-fourth those of the spring. This preservation of an almost continuous number of cloudy days throughout the spring and summer, may be induced by its northern latitude and its relation to the Columbia River.

But if we are permitted to draw close comparisons between the stations along the immediate Pacific coast, in the face of the limited period of observation at this portion of it, we would invite particular attention to a contrast of the individual months at Forts Orford and San Francisco. This can be neither uninteresting nor unimportant, since it serves to throw some light, however dim it may be, upon the relations of the oceanic circulation to the different parts of the coast, and the character of the peculiarities at those parts. At San Francisco, for June, there were 21.0 fair days, and 9.0 cloudy; for July, 12.66 fair days and 18.33 cloudy; for August, 10.66 fair days and 20.33 cloudy. At Fort Orford, for June, there was 26.0 fair days and 4.0 cloudy; for July, 25.0 fair days, and 6.0 cloudy; for August, 23.00 fair days, and 8.0 cloudy. Thus we perceive, that at the first, there is a material, and in some measure, an abrupt diminution in the proportion of the fair days; and an average monthly increase of nearly six cloudy days to the end of the season, making the number of these for June and August, as 9 to 20.33. Whilst at the second, with a high relative proportion

(26) of fair days for June, a difference of only three days exists between it and August; July, being intermediate to them; and with a small relative proportion (4) of cloudy days, (less than half of that of the other place,) there is only a difference of four days between it and August, and of two days between it and July. Why these differences between them? The answer is found in the withdrawal or removal of that disproportion of temperature over land and sea that exists at the former, and an absence of that degree of refrigeration at the latter, which belongs to the atmosphere of the Pacific off San Francisco, induced by the temperature of the cold masses themselves. If a similar comparison be made between Fort Astoria and San Francisco, as marked differences will be seen between them, notwithstanding the changes between Fort Orford and the former. For instead of a diminution at Fort Astoria from June to August in the fair days of about one-half the number, they remain about the same for each month of the season. And the cloudy days instead of doubling themselves in the monthly advance from June to August, preserve a uniform number (18). So far as the proportion of rainy days at the three posts is concerned, it is much less at San Francisco than at either of the others, notwithstanding the disproportion or increase of the cloudy days.

At the interior post, Fort Dalles, as compared with Fort Defiance in New Mexico, the principal difference appears to exist in the relative number of rainy days; the average for the season, being of rainy days 8.66 at the latter, and 2.00 at the former. Moreover, at Fort Defiance, with the monthly advance there was a material increase in them to the end of the season, whilst at the other, they show no advance whatever; the number of rainy days in August being less than those of June. Finally, to this table we have added without purposing comment upon it, Fort Steilacoom, as there may be those whose curiosity would lead them to an enquiry as to the relative number of these days higher up towards the northern limit of the section.

5TH. RAIN IN INCHES.

The mean quantity of rain at Fort Orford for the season, is 3.00 inches; at Fort Vancouver, 6.23 inches; at Fort Dalles,

0.42 inches; and at Fort Steilacoom in the north, 3.85 inches. The relations of the interior to the coast in this regard, are completely reversed to those of the Californian coast and the interior territories, as indicated at Fort Defiance. Here the fall of rain upon the coast is several times that in the interior, whilst the contrary is true at the other place.

AUTUMN OF OREGON, &c.

It would be quite superfluous to enter into a minute and elaborate exposition of the fall climate of this region, inasmuch as there are no special peculiarities requiring comment, and none so characteristic as that they have not been foreshadowed by our previous investigations. It is sufficient to remark, that the period of declination of temperature begins earlier at this part of the Pacific shore, than lower down near the latitude of San Francisco. August at the coast stations, has the highest monthly mean, and at the intermediate posts, as Forts Vancouver and Steilacoom, July has the highest. Nevertheless at the former, as Forts Orford and Astoria, the mean of September is generally higher than that of the same month at San Francisco and its vicinity. In the monthly decline of temperature, however, no such uniformity exists here, as at the latter place; and between the decline of the fall months, and the advance of the spring months, no such parallelism is noted as was remarked of the other section. Hence an earlier commencement and a more irregular and abrupt declination of temperature is the record of this section. The higher sea-temperatures of the Pacific generally at this season is the cause of the elevation of the temperature of the first fall month, which is slightly below that of August. September, however, being passed the rate of decline to the other months rapidly increases, and in proportion as we recede from the shore-line. The relative position of the monthly extremes presents however, one of the most material differences from the autumn of California; the degree of fluctuation or the possible monthly range of the thermometer, being far greater. At every part of this region, frost may be formed during September—a constant formation throughout its whole extent, except at the southern part of the immediate coast, where it is an occasional visitant. Indeed, “at all points remote from the

coast, temperatures below 36° might be expected in this month for every year." October and November always bring such extremes as uniformly produce severe frosts even at the coast stations.

To these limited remarks we will add a table of the highest and lowest observed points of the thermometer, and a brief summary of the winds and weather, with which will end our notice of the autumnal season.

OBSERVATIONS.		SEPTEMBER.			OCTOBER.			NOVEMBER.		
		Highest...	Lowest...	Pos. Range.	Highest...	Lowest...	Pos. Range.	Highest...	Lowest...	Pos. Range.
Fort Astoria,	1 year.....	84.°	44.°	40.°	82.°	42.°	40.°	74.°	33.°	41.°
" Orford,	2 ".....	92.°	40.°	52.°	77.°	39.°	38.°	74.°	38.°	36.°
" Vancouver,	3 ".....	90.°	40.°	50.°	82.°	28.°	54.°	59.°	25.°	34.°
" Steilacoom,	4 ".....	85.°	28.°	57.°	78.°	29.°	49.°	63.°	27.°	36.°
" Dalles,	2 ".....	88.°	45.°	43.°	84.°	25.°	59.°	60.°	22.°	38.°

The dry season being less distinct in this region, than farther southward on the Pacific slope, we would naturally expect the supervention of the wet season at an early date. Hence, as actually occurs, there should be even in September along the coast, where the wet season is most thoroughly established, a perceptible and material diminution of the fair days, and an increase in the cloudy and rainy. This month being passed, October should reveal still farther differences, and so on to the winter season, each month giving a relative advance over that immediately preceding it. At Fort Orford, there is a very evident decline in the proportion of fair days from August to September, and so great is the rapidity of the advance of the wet season to November, that this last has but one-third the number of fair days that the first fall month has, and less than half that of the second. And the cloudy days from September to November increase in such a ratio, that October has more than twice as many as September, and about three-fourths those of November. Of the rainy days, there are five times the number in October, that there are in September, and in November nearly nine times the latter*. The means for the entire season are

* This is the record of 1852. It varies with different years; as in 1854, there were in September 8 rainy days; in October 14; and in November only 7.

14.1 fair, 16.1 cloudy, and 11.6 rainy days. These, however, if compared with the spring season, are much more favorable. The winds at this post during this season, were very various, although opposite winds, the north-east and south-east, of the single ones, were much the most frequent and strongest. And of these it is observed, that the south-east rapidly augmented in strength with the advance of the season, and that the other declined perhaps as rapidly. It will be recollected that the south and south-east winds are the attendants of the rain; hence the greater proportion of rainy days at this season determines a greater prevalence of the latter.

At Fort Vancouver, proportional but corresponding changes took place, material differences in the circulation of the atmosphere, being noticed however. Winds from all quarters were recorded, but if any can be said to have a predominance over others, those from the east and west had it. No uniformity however in this regard can be claimed for them.

The interior post, Fort Dalles, indicated much uniformity in this regard, the south-west and west being ascendant in force and frequency to the end of the season. Here also the other weather data were perhaps not so extreme, although snow was recorded in November. Of the precipitation for the autumn, Mr. Blodget says: "On the coast of Oregon the periodical rains occupy a large share of these months, beginning before the close of September, and becoming quite continuous through the latter part of October and in November. At two posts of the immediate coast, Forts Orford and Astoria, the mean quantity is twenty inches, and at the partially interior post of Steilacoom, fifteen inches.* At Sitka, the mean for two years is thirty-four inches, and it is evident that the humidity increases rapidly along the whole coast from California northward. The periods are not sufficient to give reliable mean quantities, however, and it can only be generally stated that the Pacific coast north of 42° of latitude is characterized by profuse precipitation through at least half of the three months of autumn." The Columbia Valley is among those districts, found deficient in rain at this season, there being only an average of three inches over the greater part of it.

* At Fort Vancouver of corresponding situation, the mean quantity is 10.30 inches for the season.

WINTER OF OREGON AND WASHINGTON TERRITORY, &c.

For purposes of comparison, between the various sections or divisions, of the Pacific coast, the winter climate presents conditions which ensure far greater fairness and justice, than any other particular season. For at this time the same influences are brought to bear upon the entire coast from the southern boundary of California northward; therefore such changes as are experienced in the progress upward, or such differences as are brought out by those contrasts, are entirely owing to the peculiar climatological features of each, and are in no wise attributable to those changing sea-temperatures, which are found influencing and moulding the climate of other seasons. We have nowhere seen anything which tends to the supposition, that the temperature of the Pacific waters at this season, along the entire coast is not of a uniform degree. No statements of the measurements of these absolute temperatures have ever fallen under our inspection, beyond those which we have already quoted in the consideration of the winter of California. But we may add, that our idea of a general uniformity of temperature is based upon the general remarks of other writers. Mr. Blodget in the course of some general remarks upon the Pacific climate, says that, "on the Pacific side," the absolute temperatures are both higher than those of the land, and those of the water temperatures in summer; meaning to apply this to no particular section of the coast, although he shortly afterwards gives the various means "for successive areas of five degrees extent, both in latitude and longitude," off the coast of California. This idea is also supported by the number of isothermals of five degrees' difference, that can be made to cut this coast to the southern limit of British America, of which there are only three, and also by their course: they bend abruptly to conform to the differences of temperature between the land and sea. Furthermore it is presumable that this uniformity of the sea-temperature over such an extent of latitude, has something to do with the production of that very small and regulated decrease of the winter means in the advance up the coast, which "is but ten degrees for fifteen degrees of latitude, from San Diego to Astoria, or two-thirds of a degree of temperature to one of latitude," and "nearly the same proportion," continued to Sitka, in Rus-

sian America. If in connexion with these, we bear in mind the reputed source of the warm waters of the Pacific at this season, namely the China stream, of similar nature with the Gulf Stream, it will give force to the conclusion that a comparative uniformity must exist throughout this north-eastern part of the Pacific. Mr. Blodget speaks of "a division of the great warm currents of the Asiatic coast," "producing the general effect on the Pacific climates which the Gulf Stream produces on those of Europe."

With these preliminary remarks, we proceed to an exposition of the special winter climate of this section, as far as the present limited record will admit of it. And we will notice first the difference of the successive months.

	Mean, Temp. of Novr.	DECLINE FROM			
		Nov to Dec	Dec to Jan	Jan to Feb	Feb to Mar
Fort Orford, Oregon, 2 yrs.	51.°87	-5.°70	+2.°21	-0.°50	+1.°69
" Astoria, " 1 yr.	46.°44	-5.°78	+2.°34	+0.°62	+2.°11
" Vancouver, " 6 yrs.	46.°51	-10.°00	+4.°05	+1.°10	+2.°48
" Dalles, Col. Val. 4 yrs.	41.°33	-7.°67	-8.°24	+6.°92	+6.°44

The period of reaction at the coast stations commences in the passage from December to January, the former of these giving the lowest monthly mean for the season. In this respect they resemble San Diego in the southern section. The decline from the mean of the fall month is quite material upon the immediate coast; but it is nearly twice as great at Fort Vancouver, the intermediate post. In the further advance of the season, those upon the immediate coast shadow forth the operation of similar causes upon them; the degree of increase of heat to January being about the same; a decline in this rate to February, and then a firm advance to March. In the Willamette Valley, at Fort Vancouver, the reaction from the fall temperatures occurs a month earlier than at Fort Miller in the San Joaquin; although the point to which the monthly means recede at the first is, at least twelve degrees lower than at the second; and the January mean of the latter is not reached at the former until sometime in the spring. Between Fort Dalles and Fort Defiance, the most remarkable differences exist; the chief of these, being the higher degree of heat expe-

rienced during this season at the first. The lowest monthly mean at Fort Defiance is $26.^{\circ}18$ in January, whilst at Fort Dalles, it is $33.^{\circ}09$ in the same month. From November, the temperature continues to decline in a rapid degree to January, but then as rapidly advances to the spring season. The rapidity of advance at the two places is greatest at Fort Dalles.

The degree of declination of temperature on this coast from the fall months, is somewhat more extensive than lower down. The difference between the means of the first fall month, and the coldest winter month, being at Fort Astoria, $16.^{\circ}38$, at Fort Orford $10.^{\circ}53$; whilst at San Francisco, it is $8.^{\circ}66$. Nevertheless the rate of monthly decline is so equally distributed that this extent of decrease does not appear so prominently as it otherwise would. As you recede from the coast, the monthly distribution of heat becomes both more irregular and extensive.

2D THE EXTREME MONTHLY OBSERVATIONS.

	DECEMBER.			JANUARY.			FEBRUARY.		
	Highest Obs.	Lowest Obs.	Possible Range.	Highest Obs.	Lowest Obs.	Possible Range.	Highest Obs.	Lowest Obs.	Possible Range.
Fort Orford, Oregon,.....	66. ^o	31. ^o	35. ^o	71. ^o	33. ^o	38. ^o	70. ^o	33. ^o	37. ^o
" Astoria, "	59. ^o	22. ^o	37. ^o	56. ^o	28. ^o	28. ^o	69. ^o	31. ^o	38. ^o
" Vancouver, "	58. ^o	7. ^o	51. ^o	61. ^o	19. ^o	42. ^o	61. ^o	19. ^o	42. ^o
" Dalles, Col. Val.	60. ^o	-5. ^o	65. ^o	55. ^o	-15. ^o	70. ^o	61. ^o	19. ^o	42. ^o

The mean possible range for the season, is at Fort Orford, $36.^{\circ}66$; at Fort Astoria, $32.^{\circ}$; at Fort Vancouver, $45.^{\circ}$; and at Fort Dallas, $59.^{\circ}$.

If we were not withheld by the short period of the record here, we might go on to show the favorableness of the thermometer (its relative position,) along the coast, and to contrast it with good results with the records of the Californian coast. At Fort Orford especially, would this record be worthy of note, for the observations of each month, together with the possible ranges of the months and the season, show a conservatism of temperature unsurpassed by any post that we have yet examined. The lowest observed point, which occurred in December, is $31.^{\circ}$, three degrees higher than that of San Francisco; and the highest is $71.^{\circ}$ in January, thirteen degrees less than the highest of the latter, which gives

a reduction of nineteen degrees ($16.^{\circ}$) in the extreme range of the season for the former. Here the lowest temperatures are experienced in December, there being a decided advance to the others; their lowest degrees being above the freezing point, and their highest four or more degrees above the highest of December. At Fort Astoria, with a record still more limited than Fort Orford, there is a decline from the above figures, the highest of December being seven ($7.^{\circ}$) degrees below that of Fort Orford, and the lowest, nine ($9.^{\circ}$) degrees less. A further reduction occurs at this place in January in the highest extreme, although the lowest is raised six ($6.^{\circ}$) degrees, which reduces the possible range of the thermometer nine ($9.^{\circ}$) degrees under that of December. Advancing to the last month of the season, we find an addition of heat, which is manifested in the elevation of both extremes, and brings the relative positions of the thermometer nearly to those of February at Fort Orford. In regard to the possible ranges of the thermometer for the entire season, it may be remarked that it is less both at Forts Orford and Astoria, than at San Francisco.

Passing next to the intermediate post, Fort Vancouver, we observe that the highest monthly observations approach more nearly those of the station (coast) near its own parallel, namely Fort Astoria. But at the same time, the lowest is always found far below those of the same post, indicating a more extreme degree of refrigeration than is present at the latter. The greatest severity of cold is experienced in December, the thermometer standing at seven ($7.^{\circ}$) degrees in that month, and throughout the season an extreme degree is preserved, for temperatures of nineteen ($19.^{\circ}$) degrees are felt in January, and February. Its imperfect valley situation seems to exert but little effect in preserving an elevation of temperature, and when compared with its analogue, Fort Miller, it is far below it in the degree of heat which characterizes it.

Fort Dalles in the Columbia Valley, shows a corresponding record to Fort Defiance in New Mexico. Similar extremes of cold are experienced at both places, although so far as the record goes, the former manifests the greatest degree of cold earlier than the latter. December here gives $5.^{\circ}$ as the lowest, whilst at Fort Defiance it gives $6.^{\circ}$. But in January, at Fort Dallas, the thermometer has never been observed as low as at Fort De-

fiance. Radically and abstractly considered, they have about the same winter temperature condition. Finally, when considering the corresponding table in the other division of this coast, we instituted comparisons of some of its data, with places on the Atlantic slope; if now we make another comparison of the latter, with regard to the extreme range of the thermometer for the season and the individual months, with the two first stations in this table, we will find equally good results. These comparisons have a bearing upon the variability of the climate at the several places, and therefore subserve a good purpose; for were it not for the variability of the southern portion of the eastern slope, there would be scarcely a need of further search for suitable climates for the consumptive. A continuously cold climate is not so objectionable, as a warmer one, with variability: for changes of temperature, sudden and powerful, as they are sometimes, to say nothing of their association with other alterations in the condition of the atmosphere, are amongst the chief of the dreaded exciting causes of pulmonary disease.

3RD. THE GENERAL RANGE OF THE MEAN TEMPERATURES FOR THE WINTER.

	MEAN TEMPERATURES.												Mean Range for Season
	DECEMBER.				JANUARY.				FEBRUARY.				
	High't	Low'st	Range		High't	Low'st	Range		High't	Low'st	Range		
Fort Orford, Oregon..	45.°19	44.°15	4.°04		45.°72	45.°04	0.°68		49.°30	46.°47	2.°83		2.°51
" Vancouver, " ..	41.°75	33.°20	8.°55		42.°74	37.°81	4.°93		43.°71	33.°05	5.°66		6.°89
" Dalles, Col. Valley	40.°07	24.°05	15.°12		40.°16	21.°08	18.°18		42.°57	37.°14	5.°43		12.°91

We observe in this table at the coast station, whose record embraces a period of only two years' observation, a continuation of that uniformity in the relative position of the monthly mean temperatures, which was spoken of on the coast of California. With the change of position as to latitude, the degree or the height of the thermometrical means, both of the months and the season, has sensibly declined, yet for this latitude it indicates comparatively a high temperature. It is probable that with a longer series of observations, a greater range than 5.°15 for the season, would be found, but it is doubtful whether it would so far exceed it as to set aside the uniformity at present foreshadowed. The mean position of the thermometer throughout the season is between 44.°15, and 49.°30; the first being the

lowest mean, which occurred in December, and the second, the highest, which was noted in February. December may almost be taken as an index of the extreme range of the means for the season, for the difference between its highest and lowest means is nearly equal, to that of the same for the season. Compared with the same month at San Francisco, it is much more variable, there being a difference in the range of two degrees in favor of the latter. The other months of the season give no record of a mean as low as that of December, and at the same time, display a degree of uniformity much in advance of it. Finally, the mean range for the season amounts to only $2.^{\circ}51$, which is even $0.^{\circ}85$ less than that of San Francisco. As contrasted with that of the other posts of the table, it is about two and a half times less than that of Fort Vancouver, and about one-fifth that of Fort Dalles.

Examining now the record of Fort Vancouver, we find in December twice the range that is recorded on the coast; in January, there is seven times that of the latter; and in February, twice the latter. Here the highest monthly mean is $43.^{\circ}71$, nearly a degree less than the lowest on the coast in February, and the lowest is $33.^{\circ}20$, in December, which gives a resulting range of $10.^{\circ}51$ for the season. January and February show advances in the positions of the means over December, and give a material diminution in the extent of their general range. It manifests greater variability than Fort Miller in California, the mean ranges for the season, being as $6.^{\circ}39$ to $5.^{\circ}00$. At this post, the record extends through five or more years, and will compare favorably with those eastern stations, the records of which were given in the first clause of the subject.

The interior post, Fort Dalles, presents an extreme record, even in a period of four years, such in fact, as to need no extended remarks. It is more variable than Fort Defiance in New Mexico, notwithstanding it has an advantage in altitude and in its valley situation.

4TH. WINDS AND WEATHER OF OREGON, &C.

Irregularity is the marked feature of the atmospherical circulation at this season throughout the entire section. Therefore, we shall content ourselves with a simple notice of those indi-

vidual winds, which appear to be the most prevalent. At Fort Orford, during two years' observations, we observe a continuation of the fall season, namely, a greater prevalence of the south-east and north-west winds; the former being very much stronger and more frequent than all others.

At Fort Vancouver, in December, with five years' observations, no extraordinary prevalence can be accorded to any particular wind; those however from the east, south-east, north, and west were the principal ones; and of these, the east and south-east were strongest. In January and February, with four years' observations, a similar record was noted.

At Fort Dalles for three years, throughout the season, the east, south, and west were most frequent and forcible, and of these, the west was the strongest.

Of the Weather, the following is a Summary:

	DECEMBER.				JANUARY.				FEBRUARY.			
	Fair.	Cl'dy	Rainy	Sno'y	Fair.	Cl'dy	Rainy	Sno'y	Fair.	Cl'dy	Rainy	Sno'y
Fort Orford, Oregon, (1 year.)....	5.5	22.5	17.5	1.	12.0	19.0	16.0	.0	11.0	17.0	5.0	0.
" Vancouver, " 4 "	5.2	22.8	13.0	5.	10.0	21.0	17.0	0.5	10.0	15.2	12.5	0.7
" Dalles, C. Valley, 2 "	10.0	21.0	5.6	5.6	5.3	22.6	6.6	4.6	11.3	16.6	6.3	1.

The respective means for the entire season are, as follows:

Ft. Orford,	fair days	10.5	-cl'dy-	19.5	-rainy	12.83-	Sno'y	0.33
" Vancouver,	"	9.4	- "	-20.66-	"	14.1	- "	2.06
" Dalles,	"	9.86-	"	-20.06-	"	6.16-	"	4.73

December at Fort Orford, presents little or no variation from November, these two months forming an important part of the wet season here. The relative proportion of the various divisions of the weather, remain at about the same figures; although a record of snowy days is made in December. During this month, the fair days are only one-half of the rainy days, and about two and a half times less than the cloudy. The rainy days occupy more than half the month, and the cloudy constitute two-thirds of the same. In January, there is a slight increase in the proportion of fair days, and as slight a diminution of the others. The only material difference that February shows, is a diminution in the number of fair days, which is so great that they form only one third of the cloudy, and one-half

of the fair days. No record of snow was made during the single year of observation at this post. If we may use this short record in general comparisons with places along the coast, further south, as San Francisco, we shall then be able to form an idea of the wetness of the season.

In December, at San Francisco, there are 16.3 fair days, here, there are 8.5; of cloudy days at the first, there are 14.6, here, there are 22.5. In January at San Francisco, there are 9.5 rainy days, here there are 16.0. At San Francisco the fair days preserve an ascendancy over all others, throughout the season, whilst here they form only a fractional part.

At Fort Vancouver, the record of December corresponds with that of Fort Orford, except in a slight decrease in the rainy days, and a large increase in those upon which there was a fall of snow. And the general characters of this month are pretty well sustained throughout the other two; the most material difference between them, being the diminution in the snowy days. There is also a general resemblance between these posts, and the interior one, so far as the relative number of fair and cloudy days is concerned, but a great dissimilarity in regard to the other divisions. This last consists in the diminished number of rainy days, and the largely increased number of snowy days. The record here is in singular contrast with that at Fort Defiance in the south of this basin region. A simple exhibition of the various means for the season at the latter, is sufficient. At Fort Defiance, the number of fair days is 22.33; of cloudy, 7.66; of rainy, 0.5; and of snowy, 4.5. The result of the comparison is the deduction, that no such wet season prevails at the latter at this time, as is found at the former.

5TH. RAIN IN INCHES AT OREGON, &c.

At Fort Orford in two years, the mean quantity for December was 11.64 inches; for January, 8.81 inches; and for February, 6.35 inches: the resulting mean for the season is 26.80 inches. At Fort Vancouver, the mean of six years for December was 6.69; of January, for five years, 9.62 inches; and of February, for six years, 3.38: with a resulting mean of 19.69 inches for the season. At Fort Dalles in four years for December, there was a mean of 2.91 inches; for January, 3.16 inches;

and for February, 1.04: with a resulting mean for the season of 7.11 inches.

It will be observed that the amount of precipitation is much more profuse upon the coast, and that it decreases rapidly as you progress towards the interior, until having reached the Columbia Valley, there is a diminution of nearly three-fourths of the amount for the season. To the east of Fort Dalles, and towards the centre and south of this region, the average as indicated by the shading in the chart for the season, is only three inches.*

Besides the profuseness along the coast, its great and rapid increase as we ascend from California, becomes a matter of much interest. At San Diego, the mean quantity for the season is 5.90 inches; at San Francisco, it is 11.33 inches; whilst at Fort Orford, it has increased to 26.80 inches. An increase of nearly twenty-one inches in ten degrees in the one case, and of fifteen and forty-two hundredths in nearly five degrees of latitude in the other. The precise result of which is an increase of two inches and one-tenth to a degree of latitude in the first, and three inches and eight hundredths in the latter.

Finally, in this connexion, we give the following quotation from Mr. Blodget: "At Astoria, the quantity of winter rain is much like that of Bergen, in Norway, which at 60° north latitude, has a mean of 23.5 inches of rain in winter, for a period of ten years. Points on the west coast of Ireland, and of Scotland, and parts of England, would not differ largely from these measures. Bergen is considered as the most extremely rainy of European positions in its winter climate, and it is probable that the quantity placed on the chart for our immediate western coast—thirty inches—is too great to be sustained by the results of a period of years. At Sitka, the mean of seven years is 23.8 inches, and at Steilacoom, that of six years is 22.6. The mean for the most exposed points of the coast, cannot be less than 28 inches, and this quantity probably belongs to the whole coast, at least as far as Sitka."†

Meteorological Summary for the Year at Oregon, &c.

The mean annual temperature of Fort Orford, is 53.°62; that

* See Blodget's *Climatology*, &c.

† See Blodget's *Climatology of United States*. Page 343.

of Fort Astoria, is $52^{\circ}23$; that of Fort Vancouver, is $52^{\circ}65$; and that of Fort Dalles, is $52^{\circ}79$.

The lowest monthly mean at Forts Orford and Astoria is found in December; and the period of increase continues to August, which has the highest mean for the year at both places. The whole range of the monthly means is at the first $14^{\circ}92$, and at the second $13^{\circ}10$. The average rate of advance from the lowest to the highest at Fort Orford, is $1^{\circ}92$ per month; and that of the decline of temperature is $3^{\circ}73$ per month. At Fort Vancouver, December still has the lowest monthly mean, but July has the highest, so that the period of an increase of temperature is one month shorter than upon the coast. The mean of December is $36^{\circ}51$, and that of July, $68^{\circ}71$, which gives a range in the monthly means of $32^{\circ}20$. The average rate of monthly increase is $4^{\circ}60$ per month, and that of the decline $6^{\circ}44$ per month.

At Fort Dalles, the periods of advance and decline of temperature are equal, each occupying six months. January has the lowest mean temperature, $33^{\circ}09$, and July the highest, $73^{\circ}22$: the resulting range is $40^{\circ}13$. The average rates of increase and decline are the same, $6^{\circ}68$ per month. The record at this interior post is not quite so extreme in these various regards, as that of Fort Defiance: the stations on the immediate coast, however, differ from that of California, at San Francisco, by having a greater increase in the range of the monthly means, a more rapid increase and decline from month to month, and also in the height of the means of the summer months. The extreme range of the thermometer for the year is 47° at Fort Orford, -31° being the lowest recorded degree in two years, and 78° the highest. At Fort Vancouver, the extreme range is 79° —the lowest degree being 19° , and the highest 98° . At Fort Dalles, there may be an annual range of 120° ; the lowest recorded point being 15° , and the highest 105° .

Of the weather at these places, the record is so irregular and defective, as to admit of no very accurate representation of it. Thus, at Fort Orford, no continuous record, even for a single year, is given; but for the last six months of the year, 1854, it was as follows: fair days 105, cloudy 79, rainy 39; and for the last seven months of the year, 1852, there were 121 fair days, 93 cloudy, 70 rainy, and 2 snowy days. In the absence of

positive records on this subject at this place, we think we are warranted, in view of the various records of the seasons, which were taken from disconnected periods, in stating that the cloudy days probably greatly exceed the fair, and that the rainy constitute perhaps two-thirds of the number of cloudy days. At San Francisco, the proportion of the rainy days was a little more than a third of the fair and cloudy days, which latter were about equal to each other.

At Fort Vancouver, with two years' record, there was a mean of 141 fair, 213 cloudy, 116 rainy, and 7 snowy days. At Fort Steilacoom, on the extreme north, during three years' observation, there was a mean of 150 fair, 211 cloudy, 133 rainy, and 9 snowy days. At Fort Dalles, the record of one year was as follows: 237 fair, 128 cloudy, 59 rainy, and 11 snowy days.

The mean annual quantity of rain at Fort Orford, is 68.52 inches; at Fort Vancouver, 45.50 inches; and at Fort Dalles, 14.32 inches. These data need no comment from us, a simple mention of them being sufficient to convey an idea of their great extremity, and the results of any comparison that might be made with the southern section of this coast.

Finally, in reference to the atmospherical circulation, we refer the reader to the various seasons, only adding, that upon the coast, the south-east and north-west winds are perhaps the most frequent; whilst at Fort Vancouver, and in the interior, irregularity of circulation is the rule. Winds from all quarters, at all seasons are recorded, with the expression of no general controlling circulation at any part of the entire section.

In conclusion, we have yet to enquire into the hygrometrical condition of this section. We have purposely omitted any reference to this quality of the atmosphere heretofore, because of the limited amount of information that we possess upon the subject, and also that we might present at once or connectedly, all that we have to say in regard to it. As we have elsewhere stated, no direct exposition of the positive relative humidity of the Pacific slope by instrumental means, has ever been attempted; hence, in our remarks upon the climate of California, and its contiguous interior, we were compelled to confine ourselves entirely to general allusions to this condition, and by the best arrangement possible of the scattered and few facts, known in relation to it, to form some idea of its probable hygrometrical

condition, at least so far as this pertains to our investigation. Having been enabled to come to a conclusion in regard to the relative humidity of this section, we propose to test or rather to ascertain that of the other part, by the greater or less existence of those circumstances and conditions, which influenced and determined the dew-point at the former. The two divisions of the interior, namely the Columbia Valley and the Great Basin, and its neighborhood, present conditions in no respect differing greatly from each other; each having similar degrees of protection from extraneous influences of every character, and presenting in its hydrographic systems, more the evidences of the surplus condensations beyond their surface limits, than of actual precipitation upon them.

They are alike as to aridity of soil and atmosphere, and give analogous measurements of rain. At both places, the principal measurements have been made in the neighborhood of the mountains, where, as we have already stated, they are more the results of those local condensations which take place on their tops and sides, than of any general atmospherical precipitation.

The chief point in the comparison of the coast sections, is that of the relative amount of precipitation upon them. Taking this as an index of their probable relative humidity, we soon perceive the greater dampness of the coast of Oregon and Washington Territory. Every season of the year has a larger proportion of atmospheric precipitation, than is noted on the coast of California, and the rapidity with which this increases at some seasons northward, is a matter of great astonishment. From a comparatively small amount at all seasons at San Diego, and the intervening coast to San Francisco, we have an extraordinary profusion at Fort Orford, except in the summer season. In the spring, the difference between the precipitation at Forts Orford and San Francisco, as given in the charts of the Meteorological Register, is 10.31 inches.* In other words, more than twice as much falls on the coast of Oregon, as on that of California at this season. The effect of this upon the divisions of the weather, corresponds with it. For here, (Oregon) instead of having a larger number of fair days than of cloudy and rainy days, these latter actually transcend the other; the fair

* In the Willamette Valley of Oregon, the differences are not so large.

days constituting only one-third of the month, while in California they occupy more than half of it. There are double the number of rainy days here, than there are in California.

In the summer season, the amount of precipitation also differs, although it cannot be said that it here constitutes an exception to the climate, for in all probability, it is not sufficient to influence injuriously the human system. The wet season is not so completely obliterated as in California, and only seems to undergo a temporary suspension, which ends very early in the autumn.

There is one circumstance in which the summer climate of Oregon, is probably superior to that of California on the immediate coast. This is due to the absence of those extremely unlike temperature conditions which exist over the sea and land, and which beget both high winds and a cool, misty atmosphere. We have no evidence that the line of rolling mist which exists on the southern coast, extends as high as the present part under consideration: on the contrary, the absence of those physical peculiarities which intensify the action of the other agents, that are concerned in its production, warrants the presumption that it does not exist here.

In the fall season, which may be said in California still to form a part of the dry season, the amount of precipitation at Fort Orford, equals that of the spring, and during the progress of the season, the cloudy and rainy days steadily increase to the winter, and greatly out-number those of San Francisco.

Finally, in the winter season, the principal part of which is taken up in rainy and cloudy days, and during which an exceedingly great amount of rain is noted at Oregon on the coast, there exists the most material differences. Those meteorological circumstances which produce a constant elevated dew-point are here present to a controlling degree, and present a striking contrast with those of California.

The dew-point here then, as indicated by these several conditions, we conclude, is much higher than that of California, and if we may be allowed to express their relationship in arbitrary numbers, it would probably stand as 2 to 5.

Being now released from the tedium of statistical detail, the only remaining feature that claims our notice, is the suitability of this region, as a resort for the Consumptive. And of the

Columbia Valley we shall have nothing to say, having attached it to a consideration of the coast, for the same purpose as averred for the territories of Utah and New Mexico in the other section; and whose record, being in every respect identical, renders it equally unadapted. Therefore, we shall only discuss the adaptedness of the coast, and this discussion shall be more in a comparative sense than otherwise. If the record embraced a longer time, it would be unnecessary to resort to this method of ascertaining its merits or claims as a sanitarium; or if its topographical relationships were as those of California are, such as to preserve its features of climate at a single uniform state, this would not be requisite. But in the absence of both, we are forced to regard it only in a comparative light; although the imperfect nature of the present limited record, impairs somewhat the value of such conclusions as may be drawn from the comparison. It will be remembered, that we found the climate of the Californian coast so regulated by the circulating waters of the Pacific, that its temperature was preserved throughout the year at a relatively high and uniform condition: any great excesses of the winter climate, being prevented by the prevalence of warm masses of water at that season, which both elevated the temperature, natural to the coast in their absence, and sustained and supported it against those severe anti-periodic extremes, which so largely affect the temperature condition and statistics of the continent generally: and in the summer, opposite but analogous extremes were prevented by the substitution of cold masses of water for the warmer ones of winter. The approach to anything like an extreme in any phase of the temperature distribution, being at such periods of the year as were occupied in the shifting and substitution of these currents, each for the other. No such conservative influence is found influencing and moulding the climate of the coast of Oregon and Washington Territory; moreover, if such was the case, the result would not be so gratifying, for the altered and interrupted condition of the coast mountains, which would permit a more extended diffusion of the sea-influences into the interior, and give at the same time, greater sweep and accessibility to the continental influences, would of itself, alone and unassisted, destroy an approach to that uniformity and mildness of temperature, found upon the other coast. As it is, the waters of the ocean off this part of

the coast, are of a uniform temperature all the year round, and in all probability, form a part of the same current, of which measurements of temperature, have been taken off the coast farther south, in the winter season. But even the effect of this uniform condition of the waters of the Pacific, is on the southern part of the coast of Oregon, greatly modified in the dry season, by the proximity of the cold line at sea to it. As a consequence of the absence of the cold waters, or the substitution of waters of a higher temperature here for the colder ones of California, notwithstanding its more northern latitude, a higher summer temperature is experienced upon the coast to the extreme northern boundary, than at the other.

And this higher temperature appears to increase as we recede from the proximate influence of the cold waters at the south. Fort Orford has a mean summer temperature of 59.95° ; Fort Astoria, 61.958° ; and Fort Steilacoom, lat. $47.10' N.$, 62.989° .

And we may further add, that if the considerations of temperature alone, and the features of summer climate, were all that is required of us, those of the southern and middle parts of this coast, would compare favorably enough with those of California. The dreaded winter, however, too often full of gloomy presage to the consumptive, has to be considered; and although similar or corresponding sea-temperatures are present at both, yet, at Oregon, with a higher latitude, and less protection by mountain ranges from the north winds, there is far less uniformity, greater variability, and greater excesses of cold.

Extreme degrees of cold may be experienced at any part of this coast, and ice, frost, and snow, are recorded at every post upon it. This season also approaches much sooner than in California, and when present, affords greater vicissitudes. Spring and autumn also show greater variability and changeableness, than the same seasons at San Francisco.

If now we associate its humidity with its temperature condition, which we have already considered, and found objectionable, we think that no doubt can exist but that the climate here is unadapted to the consumptive. The summer climate as a temporary resort, may be perhaps, suited to the condition of certain irritable constitutions, but as a permanent residence, there is too much variability, a want of permanency in the

climate of the winter and remaining seasons, and too great relative humidity.

The requisite amount of exercise in the open air, could not be taken, on account of the large proportion of rainy and damp days; and the irregularity of the circulation of the atmosphere, rendering proper exercise precarious at all times, also contributes to further the idea of its unadaptedness.

[To be concluded.]

ARTICLE XXVII.

Vesico-Vaginal Fistula—Second Case. By ROBERT BATTEY, M.D., of Rome, Ga.

ADELINÉ, servant of Wm. Holmes, of Cass County, æt. 19; of rather small stature—mother of three children—first is living, and three years old; second died at one month; third was delivered 6th of March last, by use of the perforator. She had a bad getting up, with vaginitis and subsequent sloughing of tissue. Stillicidium of urine made its appearance upon the 8th day, in the act of lifting her child. The fistula is a large one in the basfond of the bladder—second class of Bozeman—extending for the most part to the left of the median line, and directed a little upwards; in length say one and quarter inches, breadth three quarters of an inch; mucous membrane of the bladder considerably everted.

May 17th. Assisted by Drs. Layton and Cheney, the edges of the fistula were freshened to the extent of a quarter inch in breadth, carefully avoiding the prolapsed vesical membrane; introduced six sutures of *silvered iron* wire, and adjusted an oval button of one and a half inches length and three quarters inch width, having two rows of six holes each, distant three-sixteenths of an inch. The silver coating upon the iron wire, in great part separated and fell off in the manipulation, while the adjustment of the button was wholly unsatisfactory, in consequence of its large size, completely obstructing all view of the fistula, so soon as it entered the vaginal canal, so that in the absence of any other means of determining the proper coaptation of the edges, it was necessary to rely upon the sensations

communicated to the hand in drawing the wires. Having once had a suture to cut out, from being too tightly drawn, care was used to avoid this accident, and at the same time such traction made as was deemed necessary to close the opening. The needle, in passing one of the sutures, penetrated a small vessel, which caused slight hemorrhage. She had some febrile excitement for the first three days, with moderate hemorrhage from both vagina and bladder; otherwise did well.

Upon the 9th day after the operation, the sutures were removed and no good union of the surfaces discovered; blood was still oozing from the denuded part; two of the wires had rusted off completely, while all were considerably acted upon by the secretions; there was no evidence of suppuration along the track of the wires, and they had not cut into the tissues at all. The length of the wires, when withdrawn, showed that the edges had been very imperfectly approximated. The patient was allowed a rest of two weeks upon a tonic of quinia and iron.

Desiring to substitute in the case some more rational and reliable means of determining the due approximation of the denuded surfaces to each other, it was determined to employ a narrow *leaden bar*, in place of the Bozeman's button, which had constituted the obstacle. Having prepared such a splint bar as will be described as No. 1, in the concluding remarks, the second operation was performed upon the 10th of June, aided by Drs. Layton and Ware. No benefit whatever had occurred from the first. The fistula was as long as ever, and gaping almost to a circular form, with the vesical membrane everted as before. The vaginal surface was denuded as usual. Six silver sutures introduced, and the narrow splint adjusted to its place without difficulty, while ample opportunity was afforded of inspecting the approximation of the edges. The entire procedure was fully satisfactory, and confident expectation would have been indulged of a complete union, but for the amount of force required to bring the edges together, inducing a belief that one or more of the central wires would cut out; in this however we were agreeably disappointed.

The patient, annoyed by flies, was very restless, and delayed the progress of the operation. Had she been furnished with a pair of drawers, they would have materially added to her com-

fort, and relieved her surgeon and attendants. The case progressed up to the 8th day, as favorably as could be desired, when an attack of acute disease supervened, in no wise connected with the operation. Upon the 10th day the apparatus was removed, and a thin layer of creamy pus found beneath the splint; the cicatrix was smooth and perfect throughout; urine was retained during the night and passed voluntarily this morning.

REMARKS.—This patient had convalesced so slowly after her labor, in consequence of vaginal and uterine inflammation, that some hesitancy was felt in the absence of any recorded precedent, as to the propriety of operating in so short a space of time after the accident. No difficulty, however, was encountered upon this score.

The writer is duly sensible of the debt of gratitude imposed upon suffering humanity through the labors of Drs. Sims and Bozeman, and heartily unites with the general voice of the profession in the appreciation of their discoveries, and yet entertains an honest conviction that perfection has not yet been attained in the operation. While disclaiming, in toto, all desire to occupy the position of a discoverer, or in any degree to participate in the honors so properly awarded to the gentlemen named, it may not be unprofitable to examine briefly the objections to the apparatus which is now used by the various operators, and see if we cannot get one step nearer the desirable standard.

First, let us understand that vesico-vaginal fistula, however produced, is a solution of continuity of the vesico-vaginal septum, in which the efforts of nature for repair are thwarted, by the continual trickling of the urine over the denuded parts, and frequently by extensive loss of substance, widely separating the granulating surfaces. It will not probably be denied, that if immediately upon the promotion of the fistula, its edges be brought together, and a contrivance instituted—say two small silver tubes, to be inserted into the mouths of the ureters, for the purpose of completely removing the urine without its entering the bladder at all—nature is fully competent, by adhesive inflammation or by granulation, to close a breach in this situation as well as in any other part of the body. We may then assume,

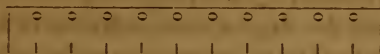
that the objects to be aimed at in the operation, after freshening the edges, to place the parts in a suitable condition for healing, are threefold. 1st., completion of the surfaces; 2nd., perfect rest for the parts; 3rd., the removal of the urine from contact with the freshened edges, and this by means which shall not in themselves be objectionable.

The clamp suture of Dr. Sims, fulfils these indications well, in most cases, if skilfully applied, but is subject to objections which has caused it to be abandoned by Dr. Sims himself, and need not therefore be further considered. Of Dr. Bozeman's button, it may be said, that he has succeeded most admirably in overcoming the dangers of sloughing; he has given us the opportunity of treating with the single apparatus, an opening of any size or shape; he has rendered the sutures independent of each other, so that the failure of one shall not involve the rest; he has given us a shield to protect the edges of the fistula, also a splint to keep them at rest, carefully *avoiding*, however, by corrugating the button, any pressure upon the immediate line of union, distributing it off to a distance, thus making the pressure tend rather to *gap open* than to close the edges. Besides, we have lost the opportunity afforded in the use of the clamp, of inspecting the approximation of the edges, and in the case of a large fistula, the button is clumsy and unwieldy.

Dr. Agnew, of Philadelphia, operated upon a case last year, which had twice failed in the hands of another surgeon, and attributes his success to the fact of his having overcome the difficulty, by cutting a window upon each side of the button, through which the parts beneath were distinctly visible. The button of Agnew is an improvement upon Bozeman's, but still objectionable, in that it is encumbered with the ring of metal left upon the circumference, and which can answer no useful purpose, but on the contrary adds to the difficulty of adjustment, while it prevents a salutary pressure of the central bar upon a line of approximation. He seems to ignore, with Dr. Sims, of N. York, the advantages to be gained, first, by splinting the parts, and secondly, by pressure upon the edges, ensuring the complete exclusion of the urine, and suggests the future employment of the simple silver wire, twisting the ends together, as practised by Sims; or the twisted suture, as in hair-lip, using silver pins and protecting the ends with shot.

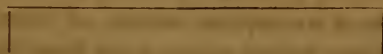
No. 2, differs from No. 1, only in the substitution of a row of notches cut into one edge of the bar with a very thin saw, or the blade of a case knife, in place of a row of the holes.

[No. 2.]



No. 3, is a simple, plain bar, without either holes or notches.

[No. 3.]



It is proposed, then, to proceed as heretofore up to the point of inserting the sutures:—Let there be as many little coils of the silver wire as the required number of sutures—pass in the free end of each wire, as usual, and out at the vulva. To adjust splint No. 1, pass the ends of the wires through the perforations upon the corresponding edge of the bar, slip a shot upon each, compress it, and turn down the end of the wire. Now, with a slender rod of wood, or whalebone, in one hand, as a pulley over which the wire may slide—with the other hand draw alternately upon the coils of wire, and pull down the splint upon the posterior edge of the fistula—holding the wires firmly,—press upon the anterior edge in contact with its fellow, cut off the wires at a length of 4 to 6 inches, as may be convenient, and with a forcep pass the ends through the holes—adjust the shot and finish as usual.

No. 2, is applied in the same way precisely, save only that the proximal ends of the sutures are much more conveniently adjusted by simply pressing the wire into its notch, securing the shot, cutting the wire afterwards just above it, when a slight pressure with a blunt metallic rod upon the edge of the splint will close the notch sufficiently to prevent the wire slipping out.

No. 3, is a simple leaden bar, and is applied as follows:—Introduce the requisite number of wires, of say 12 to 18 inches length, press up the front line of the fistula in even, but not too forcible contact with its fellow, slip the two ends of the wire through the eye of the needle and press it down as a suture adjuster—pass down a shot and fasten it, cutting off the wires and turning down the ends.

This is the simplified operation of Sims, improved by the restoration of his own shot. Now bend the bar longitudinally to an arc of a circle, representing the vaginal orifice, grasp it near the middle with forceps, and insinuate the end under each successive suture, gradually straightening out to the natural curve of the vaginal wall as it is introduced. The ends of this bar may be turned up a little, or even folded over, if any apprehension be entertained of its slipping; without this precaution it will so far bury itself in the tissues as to leave little chance for displacement.

It is believed that no one form of splint will be likely to answer every case, but the particular form must be chosen for each, remembering that the desirable points in the apparatus are these—viz: the metallic suture (lead, silver, gold or platina—not iron). The splints and the compress. The splint No. 2, as described, will usually prove the best and most convenient form, with the further recommendation of consuming the smallest amount of wire, only so much as actually forms the suture being used in the process. With this splint gold wire could probably be used to better advantage, on account of its greater softness and pliability, while the expense of the very small amount consumed could not be objected to.

The observation of two successful operations in which the sutures were removed upon the 5th and 6th days, respectively, leads to the inference, that so long a period as nine days is entirely unnecessary to success. It has been remarked, in the case reported, that a thin layer of pus was found beneath the splint; the fluid was purulent in appearance, but was not critically examined. Could it be due to the action of the compress? Upon this point, it may be said that the mucous membrane beneath it was smooth and even—nothing unhealthy about the tissue was discoverable; that the patient labored under granular inflammation of the cervical canal and os tincæ, from which source the supposed purulent fluid may well have emanated and become lodged beneath the splint, and thus protected from the water with which the vagina was daily syringed. Its presence cannot be used as an objection to the splint, since there were no evidences of ulceration at all, and the splint had occupied its place several days longer than was really necessary to the cure.

This form of splint and compress might be used, it would

seem, with advantage, in closing the abdominal section in gastrotomy. The action of the compress in closing the gap firmly and protecting the edges from every source of irritation by contact of air or clothing, and of the splint, in keeping the parts at perfect rest, must obviously favor early adhesion, which, with the use of the silver or gold suture, would probably give us every desirable advantage. In hare-lip, also, a similarly formed splint to either No. 1 or No. 2, of transparent horn, or a *perfectly flattened* section of goose-quill, perhaps presents some advantages over any other expedient in use.

It is deemed wholly superfluous to argue at all the propriety of bringing to our aid the valuable services of the compress in favoring early adhesion; any one who has cut his finger with a knife, and quickly bound it up with his handkerchief, is familiar with the fact that a surprisingly rapid union takes place.

Notes on the Phenomena which occur in the Tails of very young embryo of Frogs, when they have been detached from the body.
By M. VULPIAN.

SPALLANZANI has stated that when the tail of the tadpole is cut off a process of regeneration takes place, after which the tail is reproduced. This experiment has been often tested, and is constantly successful. I have seen the new part form again after it had been several times taken off. Until now, physiologists have rarely made it a matter of research as to what became of the tail after it was cut off. Moreover, no results can be obtained by operating on well-developed tadpoles. In this condition the tail loses all movement as soon as it is separated from the body, unless the section have been made close to the base, because it may then contain a very small portion of the spinal marrow, which in the tadpole passes a little beyond the posterior portion of the body; the tail, at all events, soon becomes decomposed. The case is not similar when the experiment is made upon the very young embryo of the frog, at the time when their gills begin to form. The tail detached from the body lives some time, and interesting phenomena occur in it. I discovered this when it was too late to procure any more frogs' eggs, so that I was unable to vary the experiment in many ways, which I intend to do next year. The tails detached from the bodies frequently live several days, manifesting their existence by the motions which they make when stimulated or when they are exposed to contact with the air, which appears to be a source of irritation. These motions consist in a series of flexions and a lifting up of the tail as in the act of swimming.

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But life is also manifested by yet more important and singular phenomena. At the time when the experiment begins the tail is formed of the central axis and of two membranous portions, one inferior, the other superior, the whole constituting the caudal fin. All the elements in these different portions are in their first stage; the epithelial cells, the muscular fibres, the nervous fibres, the vessels, and the blood. Without entering into details, which I shall enlarge upon in another publication, I may say that these tissues, examined daily, gradually attain perfection; they lose their foetal character, the elements are multiplied, and, at the same time the vitelline granulations which they inclose disappear completely. A cicatrice is formed in the neighborhood of the section; a new portion is here added to the tail, and this portion which may be about as one-eighth to the whole length of the tail, seems younger; it is more transparent, and has no central axis, and the cells are filled with a larger number of granulations. This growth of cells takes place at the expense of the pre-existing cells; there is no intussusception. The tail flattens out without becoming larger. The vessels are seen to ramify; star-shaped cells give birth to capillary blood-vessels and probably to lymphatics; cutaneous pigment cells appear. The groups of muscles which are separated by intersections, and which form a large portion of the axis, are more clearly defined; these intersections are crossed by distinct vessels which give rise to a net-work of membranous lamina; in these vessels are seen stationary blood-globules, which become modified while the tail lives. In the only experiment which I could extend to any length, a tail, cut upon the 9th of April, 1858, was yet alive on the 27th; that is to say, at the end of eighteen days; but it was then almost dead, and was sacrificed for more complete examination. At the time the tail was cut off the blood-globules were entirely round, almost colorless, and very granular. During the last days of its existence the granulations had diminished in number, and were exceedingly fine; several globules were oval, and at the last they became of a marked yellowish tint.

I wished to make these experiments upon the embryos of the triton, but I could not succeed. They offer less resistance, and the cohesion of their elements is not so strong, so that they fall rapidly into decay. Nevertheless, I preserved the tail of the larva of the triton, which lived six days; the section had separated from the body not only the tail, but also the posterior half of the larva. No real scar was produced, but drawings, made every day with the camera, showed considerable changes in the length and shape of the caudal portion of the segment. The elements of this portion underwent notable modifications; but the length of the experiment did not admit of their being as profound as those in the elements of the tail of the embryo of the frog.

Thus the tail of the embryo of frogs, detached from the body, may live twenty days, and be the seat of the most incontestable

vital phenomena. This cicatrization which occurs, this new portion which is reproduced, are tendencies to restoration. As in animals still lower, life, at this stage, undergoes segmentation, if we may be allowed the use of such a phrase. But as the vital force begins to resume its functions, the elements which it renders active are multiplied and perfected, and gradually attain to a higher organization. Circulation thus becomes an imperious necessity, either to convey new materials or to carry away the tissues already broken down. Finally, a multitude of minute molecules are deposited in the midst of the tissues, and life becomes extinct.—[*Comptes Rendus de la Société de Biologie*, and *North Amer. Med. Chir. Review*.

Report of a Case of Poisoning with Stramonium Seed—Laudanum the Antidote. By T. L. MADDIN, M. D.

A LITTLE girl, at the Orphan Asylum, four years of age, had eaten her dinner as usual, in apparent good health; in an hour afterwards was found in the yard, not able to stand, staggering, falling, and striking about at random, talking incoherently, a vacant bewildered expression, with the pupils dilated to the full extent of the colored portion of the eye, and totally blind. I saw the child in about half an hour afterwards, and found her with all of the above symptoms in their extremest degree. The face was of a scarlet hue, the conjunctiva of both eyes engorged with blood; the iris could not be seen, so great was its dilatation; the retina entirely insensible to light. An incoherent delirium, imagining herself surrounded by objects that had no existence; her vagaries were of a pleasant character, and created great merriment with the other children present. Subsultus tendinum, picking about the bed-clothes, and grasping at random around her; the pulse imperceptible, and the extremities cold.

The matron of the establishment supposed the child had become deranged. As soon as I examined it, I told her it was poisoned with stramonium. She stated there had never been any of it about the house. Upon inquiry if there was any Jamestown weeds about the lot, she stated not one, for she had some days previously had every one pulled up and thrown from the yard, fearing the children might get them, having known of children poisoned with them. I remarked that, whatever may have been her precaution, the child had been eating the stramonium seed.

The first feature of the treatment consisted in the use of emetics, but by no process could I induce vomiting, so insensible had the stomach become. At first the child would swallow any quantity of fluid, no matter how nauseating, warm or cold, all indifferently, but without the slightest perceptible effect, the train of symptoms remaining the same. The jaws, after a time,

became so rigid, that it was impossible to give any thing, the symptoms all the while assuming a graver character. The therapeutic import of stramonium and belladonna being the same, and as I have by repeated trials convinced myself of the certain virtue of belladonna as the antidote for opium, *vice versâ*, opium should be the antidote of belladonna, and all therapeutic agents that act on the same principle with it. This is true only with that class of antidotes which act upon a therapeutic principle, and not those which act chemically or mechanically. I ordered an enema of half a drachm of laudanum in a tablespoonful of water, having previously ordered a large stimulating enema, which passed off without any fecal evacuation. The laudanum enema was retained. In about half an hour a narrow portion of the iris could be discovered. This injection was repeated five times, and each time with good effect, with more contraction of the iris, and returning consciousness, the child becoming more composed, the delirium yielding, the expression more natural, the sight returning, the scarlet flush gradually vanishing, the circulation better, the extremities warmer, and recognizing and answering questions correctly. She continued dozing pleasantly for the next thirty-six hours. The pupil remained dilated during this time about two-thirds the size of the colored portion of the eye. I should mention that after the second laudanum injection had been administered long enough to have effect, and with the first symptoms of returning consciousness, the emetics which had been taken six hours previously, produced considerable nausea with some vomiting, but nothing more than a small quantity of water was thrown up. A large dose of castor-oil was administered, with specific directions to examine carefully each evacuation for the stramonium seed. In the meantime, the matron informed me that she had found quite a patch of Jamestown weeds, which by oversight had been left in a portion of the yard. Seed-pods, broken open, were discovered, and the bushes seemed to be freshly broken. This was a partial endorsement of my diagnosis, which was fully demonstrated by finding a very large quantity of the seed in the fourth evacuation. All unpleasant symptoms gradually disappeared, and in forty-eight hours from the time the seed were eaten, the little girl was able to be up and about the room.

I have deemed it advisable to report the above case, as a further proof of the valuable fact, which I have on previous occasions endeavored to impress upon the profession through the pages of the Record, that opium occupies to belladonna and its kindred drugs the relation of a therapeutic antithesis, and that they furnish to each other, in any quantities, safe and reliable antidotes, the pupil in all cases being a reliable index as to how far we may with safety proceed in their use.—[*Nashville Med. Record.*

Is the Usual Treatment of Post-partum Hemorrhage Correct? By
Dr. LYALL.

AMID the thousand and one expedients for the arrest of post-partum uterine hemorrhage, there are a few of universal acceptance—taught in the schools, prescribed in didactic works, and employed in all emergencies demanding special interference. These seem to constitute a portion of the broad beaten track of the obstetric source, from which no one may think for a moment of turning aside, or even of entertaining a doubt that he walks in the right way. It will readily suggest itself to the minds of every one, that I here allude to the mechanical irritation of the uterus to induce it to contract, and the removal of clots from its interior, so as to get it to contract, upon itself. In this practice was I instructed, and in this faith for many years practised; and the instruction and practice are, in a great measure, now what they were when I was a pupil, thirty years ago.

Let us take a case, and go over the ordinary mode of procedure. After the removal of the placenta, which, perhaps, has been somewhat tedious, the uterus contracts at longer intervals and more feebly than usual; at each contraction a quantity of blood is thrown out; the uterus is grasped through the external walls of the abdomen, and urged by frictions and pinchings, to contract and expel its contents, which are now found gradually to increase; these means failing, and the woman getting more and more prostrate, cold water is dashed over the belly, the hand introduced within the cavity of the uterus, and the clots removed. Brandy and opium are prescribed; still the uterus fails to contract so as to prevent hemorrhage, sinking continues, till, pulseless and exsanguined, the woman dies. This consummation I have never witnessed, and trust I never may; but all preceding the final issue has been to me a matter of experience; the grievous discomfort of the patient lying in a plash of cold water, and the scarcely less grievous anxiety of the attendant watching and waiting on.

Such is the usual course of a fatal case of post-partum hemorrhage, and the most common means employed in its treatment; the chief object in view being to get the uterus to contract upon itself, so as to arrest the vital flow. Many other means out of the thousand and one to which I have alluded, are, no doubt, often used—galvanism, squeezing a lemon within the cavity of the uterus, blowing up a caoutchouc or common bladder within it, etc. etc., one or other of which has preceded a recovery—"post hoc ergo propter hoc," the steeple preceding the sands. The indication of cure is, no doubt, a right indication, as the contraction of the uterus is the means employed by nature to arrest the hemorrhagic loss; and it is usually because nature fails in the performance of this natural act that we are called on to inter-

fere. But do we act aright in the mode of our interference? If the uterus acts feebly, and fail to contract favorably, so as to stop up the uterine vessels, will we aid its feeble powers by excessive stimulation or irritation? We know that the stimulation of other organs in a weakened or feeble condition may soon exhaust, but cannot invigorate them; and why may the uterus be an exception to the ordinary physiological rule? Moreover, are we right in removing the clot from the interior of the organ? The uterus has been powerful enough by its contractions on the child to expel it; and will it now contract more powerfully on nothing than on a contained clot? All muscular fibres, we know, by contraction lose power—that is, the more they are shortened by action, the less power they have to continue shortening by continued action; and why may the uterus be an exception to the ordinary rule? These questions, and questions such as these, I put to myself, but fail to answer them favorably to the ordinary practice; and thus it came about that my mode of procedure changed. I do not feel anxious although the uterus contain a clot, and have long ceased to vex the organ by external and internal manipulation. Is this or the usual practice right?

If we consider the ordinary and natural mode of arrest of hemorrhage, we find that the blood coagulates within and around the mouths of the bleeding vessels, and that this coagulation is promoted by the sickness and fainting induced by the loss of blood, in fact, is a chief means employed by nature in arresting its further flow. In epistaxis, for instance, the bleeding nostril gets plugged up with a clot, which in time restrains the further flow; and in ordinary wounds, unless an arterial trunk of considerable size be injured, the same thing takes place. In epistaxis, we do not sedulously remove the clot, but rather aid its formation by plugging the nostrils, and diminish, if need be, the vis a tergo by venesection, and thus imitate nature in her conservative efforts to check the hemorrhage. Why our practice in uterine hemorrhage should be different I cannot see. The organ, having failed to secure its own vessels by its customary contraction, adopts the mode of coagulation to effect the same purpose; and we, forsooth, wiser than nature, would compel her back again into her forsaken course, and say to the uterus, You shall cease to bleed by contraction, and contraction alone; a coagulum is not to be formed, or, if formed, must be removed; but removed at least once too often, the organ and its possessor fail in the contest, and cease to strive forever. While thus condemning the “meddlesome midwifery” of intra and extra-uterine manipulation for the arrest of uterine hemorrhage, in which the very life-blood of the patient is squeezed out of her by these ill-considered efforts, the casualty is by no means one for non-interference; something must be done, and that

quickly; but let it be in accordance with the principles and the rules of art. When, in surgery, we fail to reach and ligature a bleeding vessel, our next resource is pressure; and as we cannot tie the vessels of the uterus, pressure is our chief and remaining stay. At the risk of apparent egotism, I shall go over the mode of procedure I usually adopt, both for the prevention and arrest of uterine hemorrhage. As soon as the placenta is withdrawn, I place the patient on her back, put her hand over the uterus, and cause her to keep it there until I have drawn a bolster-slip or similar bandage underneath her: feeling for the uterus, I lay over it a folded flannel petticoat, or other large compress, and fix it in its place with the circular roller as tightly as it can well be drawn; a very considerable pressure is thus applied to the uterus from the first, as the compress should be sufficiently large to make the antero-posterior equal at least to the lateral diameter. If hemorrhage do take place, the bandage is still further tightened, and the compress enlarged; and if there be escape to any extent of blood per vaginam, then the long bandage is also applied, as described in *Lancet*, 1850, vol. i. p. 384. The patient is kept supine and motionless, so as to promote coagulation and repress cardiac action. I permit no shifting of clothes, or indeed anything demanding motion or likely to excite arterial activity; as pressure and quiet I conceive to be quite adequate to prevent a fatal issue in uterine hemorrhage, if properly and timeously applied.—[*Proceedings of Obstetrical Society of Edinburgh, in Edinb. Med. Journ., and Amer. Jour. of Med. Sciences.*]

On the Administration of Belladonna, and on certain Causes which modify its Action.

A PAPER on this subject was read before the Royal Med. and Chirurg. Society (July 5) by HENRY W. FULLER, M. D. The author was led to the inquiries which form the subject of this paper by observing the remarkable tolerance of belladonna exhibited by a child, a patient in St. George's Hospital, to whom he was administering it as a remedy for chorea. Fancying that the tolerance of the drug observed in the case in question might be attributable either to imperfection of the extract or to the modifying influence of the choreic spasms, he obtained other extracts of belladonna from Apothecaries' Hall, from Squire's, and from Jacob Bell's, in Oxford Street, and administered it, dissolved in water, to ten other choreic patients in the hospital. In a twelfth case, he administered atropine, obtained from Morson's in Southampton Row. The result was in all cases the same—namely, extraordinary tolerance of the remedy, with a varying, but not very satisfactory, effect as regards the subjugation of the

choreic spasm—the tolerance of the drug being so great that one girl, aged ten, took seventy grains of the extract of belladonna daily, and a total amount of one thousand and nineteen grains, or rather more than two ounces, in twenty-six days; while the child aged fourteen, to whom the atropine was administered, took no less than thirty-seven grains in eighteen days. 1. The patients were all pale whilst taking the larger doses of the drug; and in no instance, was there any feverish heat, or any rash or erythematous blush on the skin. 2. There was great weakness of the pulse in all the cases, and, in some, considerable quickness. 3. The urine was generally clear and acid, but scanty, and of high specific gravity, varying from 1024 to 1036. In three cases it frequently contained a copious deposit of crystallized lithic acid; and, in three other cases, it was usually loaded with lithates. In one case, for the space of a few hours, whilst the patient was under the toxical influence of the drug, it became ammoniacal almost as soon as voided. 4. In one case some difficulty was experienced in voiding the urine; but this was not observed in any other case. This difficulty passed off when the belladonna was omitted. 5. The tongue was always moist, but usually red whilst the larger doses of belladonna were being taken, and the redness passed off when the drug was omitted. 6. The remedy did not, in any instance, exert a constipating effect; on the contrary, it appeared to prove aperient. An occasional purge was required only in three cases. 7. In five cases it ultimately gave rise to sickness and diarrhoea; but in every instance, save one, the choreic spasms had almost wholly ceased, and, in the exceptional case alluded to, had greatly subsided before those symptoms were produced. Whenever bowel symptoms occurred, mere omission of the medicine sufficed to cause their cessation. Did the existence of spasm counteract the influence of the drug and prevent their occurrence? 8. Dilatation of the pupils was very uncertain. In almost every instance the pupils were large before the administration of the medicine was commenced, and they invariably became dilated soon after a dose of the medicine was taken. The dilatation, however, was not to the degree observed when a solution of belladonna is dropped into the eye, and, in most of the cases, it passed off before another dose of the medicine was due. Its ordinary duration was about two hours and a half. In one case, excessive dilatation occurred for a few hours coincidently with the occurrence of sickness and purging. In two cases considerable dilatation was pretty constant; in one case it was seldom great. 9. In two instances only did the slightest indistinctness of vision occur. In one of these it was observed only on three occasions, and then only to a slight degree, and was not accompanied by dryness of the throat, headache, or any impairment of the mental faculties; in the other, it took place

more frequently, and strange to say, was most complained of when the pupils were of their natural size, and were contracting freely under the stimulus of light. It was not attended by delirium, nor by any indication of the action of belladonna, and the administration of an additional quantity of the drug was almost invariably followed by its removal. 10. The drug did not, in any case, produce the slightest narcotic effect; and, in one case it failed utterly as an anodyne. 11. In no instance was there any evidence of its accumulation in the system. 12. The tolerance of the drug was not in proportion to the severity of the choreic spasms. In Case 2, in which fourteen grains of the extract, daily, occasioned sickness and purging, the spasms were more severe than in case 11, in which seventy grains were taken daily without disturbance of the stomach and bowels. 13. The curative effect of the drug was very uncertain. In seven cases its action appeared to be decidedly curative, but in two cases it failed to exercise the slightest control over the spasms; and in the other three cases, it is doubtful whether the improvement ought to be attributed to its action. Being desirous of ascertaining whether the tolerance of the drug was due to its decomposition in the stomach, or to its non-absorption, the author submitted to Dr. Marcet and Mr. Kesteven for examination some of the urine voided by a patient in Rosberry Ward, who at the time was taking sixty-four grains of the extract of belladonna daily. The former extracted atropine enough from three ounces of the urine to kill two white mice, and narcotize several others. The latter, from two ounces of the urine, obtained sufficient to produce dilatation of a cat's eye, to afford the beautiful filamentous crystals of atropine now laid before the Society, and to give the reactions which atropine yields with iodine water, tannic acid, chloride of gold and sulphuric acid, and bichromate of potash. The feces also, on being analyzed by Dr. Marcet, yielded abundance of atropine. Thus, then, up to this point, five facts, appeared proved: 1st. That in cases of chorea extraordinarily large doses of belladonna and atropine are tolerated. 2d. That the drug is absorbed into the blood, and therefore, that the tolerance of it is not attributable to its non-absorption, nor to its being decomposed in the stomach. 3d. That it does not accumulate in the blood, but passes out of the system with the urine and feces, and probably with the other excretions. 4th. That it does not exercise that amount of control over the choreic spasms which would have been expected from the readiness with which it is tolerated by the system. 5th. That the tolerance of the remedy is not in proportion to the severity of the choreic symptoms. The question, therefore, arose as to whether the existence of chorea had any part in producing tolerance of the drug, or whether that tolerance may not have been due to some other circumstances? With the view of determin-

ing this point, the author administered the extract of belladonna to two convalescent children, whom he kept in the hospital for the purpose. To the one, aged seven, he ultimately gave thirteen grains of the extract daily, and to the other, aged ten, twenty-eight grains daily, without producing dryness of the tongue or fauces, or any symptom indicative of the action of belladonna beyond some temporary dilatation of the pupils. With the view of having the matter tested with children on a larger scale than is possible at St. George's Hospital, the author requested a friend, who is attached to a large public institution for children, to administer it cautiously in gradually increasing doses. Accordingly to eleven children, varying in age from three to six, one-eighth of a grain of the extract in solution was administered three times a day, and the dose was increased in the course of six days to half a grain thrice daily. To four other children, from eight to twelve years of age, a quarter of a grain of the extract was given, and the dose was increased in the course of six days up to one grain three times daily. These children were all in good health; the dose was gradually increased, and dilatation of the pupil was the only effect produced. To seven other children, between five and seven years of age, he began by giving one-third of a grain twice a day, and continued it for three days without perceiving any effect from its administration beyond slight dilatation of the pupil. He then prescribed two-thirds of a grain twice a day; but by mistake one grain and a third was given at a dose. The result of this large and sudden increase was that the children were all seized with sickness and vomiting; some of them had diarrhoea, and one of them had the violent uncontrollable delirium characteristic of belladonna. Stimulants were at once administered, the belladonna was omitted, and on the following day the toxical effects of the drug had passed off, and the children were perfectly well. To adults, the author administered the drug in pills, and in solution, and he found that, however given, very small doses usually produce dryness of the tongue and fauces; that two grains daily will often excite vertigo and dizziness, and that it is not possible to establish a tolerance of the larger doses as in children. He was thus led to the conclusion that; 1st. The tolerance of belladonna is not attributable to the counteracting influence of choreic spasms, but is in some way connected with the age of the patient. 2dly. That a much larger dose than is usually prescribed is well borne from the first by children of tender years. 3dly. That in children, though not so in adults, a tolerance of the remedy is speedily established, so that the dose may be safely increased, rapidly, but gradually. 4thly. That special care should be taken in apportioning the dose to the age of the patient, and in not increasing the dose too rapidly, inasmuch as the usual toxical effects of the drug will be pro-

duced if too large a dose be given before a sufficient tolerance of the drug has been established. 5thly. That the milder toxic effects produced by the drug are of little importance, and subside without remedies as soon as the administration of the medicine is discontinued. 6thly. That adults cannot tolerate the doses of the drug which can be taken with impunity by children. The extraordinary difference in the tolerance of the drug observed at different periods of life, the author remarks, may be explicable by the medicine passing off with the urine, as also, probably, with the other excretions, more rapidly in childhood than in adult life; and he concludes his paper by the following suggestions: 1st. That inasmuch as belladonna is admitted to be productive of signal benefit in whooping-cough, even in the minute doses in which it has been hitherto administered, it is probable that a corresponding increase of benefit would result from large doses, which it is now proved may be safely prescribed under certain restrictions. 2dly. That it deserves a trial in epilepsy, laryngismus stridulus, and other spasmodic affections. 3dly. That combining as it does antispasmodic, sedative, and slightly purgative properties, it may be productive of relief in certain cases of dyspepsia connected with infra-mammary pain, flatus, and spasms in the abdomen. 4thly. That inasmuch as it exercises a remarkable power in controlling spermatorrhœa and incontinence of urine, and the experiments recorded in this paper prove that it is excreted with the urine, it is highly probable that its curative action in such cases may be due in great measure to its topical effect, and if so, that it might be applied locally with advantage.—[*Med. Times and Gazette.*

The Treatment of Syphilis with Mercury. By C. A. HARTMAN.

DR. VON BAERENSPRUNG, physician of the department for syphilitic patients in the hospital Charité, at Berlin, Prussia, has, for a number of years, studied the effects of mercury and its preparations on the human body, in order to deduct therefrom the indications for the employment of these remedies in the venereal disease. We condense the substance of his elaborate essay on this subject, published in the "*Annalen der Berliner Charité.*"

Metallic quicksilver has been employed as medicine in three forms: fluid, in fumigation, and in trituration, (gray ointment, blue mass, Plenck's mucilage of mercury, *mercurius saccharatus*, *hydrargyrum cum creta*, &c.) but in none of these forms does the fluid mercury penetrate any of the tissues of the human body.

The pure metal, however, may be retained for sometime in the intestinal tract, become partly oxydized, and attain in that way the power to affect the organs of the body. Mercurial fumes have only a local and external effect; when inhaled, they are

condensed into globules, which cause violent irritation of the air-passages. Mercury extinguished by trituration is always partly transformed into the sub-oxyde, which forms the only effectual ingredient of the blue pills and similar preparations. In the *Unguentum cinereum*, this sub-oxyde of mercury is by far the greatest part combined with adipous acid, and thereby enabled to penetrate together with the free fatty matter, the skin and mucous membranes diosmetically, and to reach the blood.

In regard to the oxyds of mercury, their combinations with sulphur are no longer used, and need, consequently, no attention. The black sub-oxyde is transformed, in the stomach, into calomel; the red precipitate into corrosive sublimate. The latter substance has a strong affinity to all organic tissues, destroying their structure, by inflaming and corroding them. It enters into combinations, not only with the contents, but also with the membranes of the stomach, among which combinations the albuminates require a particular consideration. A solution of sublimate added to a solution of albumen forms two albuminates of mercury; one solid, insoluble in water, but easily dissolved by the addition of different acids and salts, such as acetic and muriatic acids, muriate of soda, or ammonia, &c.; is, according to Rose and Elzner, oxyde of mercury with albumen; the other, albuminate appears in a fluid state. They are both readily absorbed by the mucous membranes of the stomach and intestines; so quick, indeed, that nothing of them reaches the lower two-thirds of the intestinal canal.

Among the other oxysalts of mercury, the cyanate is nearly allied to sublimate, sharing with it the same degree of solubility, and, consequently, forming the same combinations. Its effect may, however, be modified or complicated to a certain degree, by a small quantity of Prussic acid, set free during the changes undergoing in the stomach. The acid nitrate of quicksilver exhibits also a character similar to that of the bichloride, whilst the biniodide differs by being almost insoluble in water. It requires for its solution muriatic acid, or some combination of the same. Adhering to the walls of the stomach, it operates more violently, and on different places, corroding the membrane more intensely.

The oxydulated salts of mercury are all decomposed when connected with organic substances, giving off metallic mercury, and changing into oxydized salts. Those of their number which are soluble in water, (the nitrous oxyde, for instance,) are thus transformed more rapidly than the insoluble ones, (calomel, the simple iodate and the bromate.) It is for this reason, that especially the latter ones do not corrode the stomach, but, merely irritate it; a large part of them go to the intestines and is there transformed, so that the mucous membrane of the entire intestinal canal participates in absorbing the albuminates formed. As a natural consequence, greater doses of these insoluble preparations are requir-

ed, but salivation is also more readily excited. Large doses increase the secretion and the peristaltic movement of the intestines so much that all, or most of the remedy is thrown out with the copious discharges that follow.

The unguentum cinereum is, therefore, the only preparation which sends the mercury in a saponaceous combination to the blood; all other preparations changing into albuminates, which are always alike, neither the acid connected with the mercury, nor the state of oxydation producing a difference. The only difference existing in the latter class is this: all preparations soluble in water, or in the digestive fluids, are strong corroding poisons, and must be exhibited in very small doses. Their effect is proportional to the dose employed. Such are the red oxyde, the chloride, the iodide, the cyanide, the nitro-suboxyde, and the nitric oxyde.

The preparations almost insoluble in water, or by the digestive organs, do not corrode, but irritate the mucous membrane of all the intestines, and are in part discharged unchanged; consequently their effect is never proportional to the dose. Large doses generally produce diarrhœa and no salivation, which is more certainly brought on by small doses. The simple suboxyde, the submuriate and the iodate belong to this class. The acids and salt-radicals connected with the different preparations of mercury, and set free in the stomach or intestines, may possibly modify somewhat the effect of the mercury itself. The preparations of each of the two classes enumerated may be taken in general as perfectly alike, and scarcely differing in degree so far as their effect on the organism is concerned. What further changes the quicksilver goes through after it reaches the blood, how long it remains in the organism, in what manner it is discharged again from the body, are questions not yet settled, in spite of a great many experiments. All we know on this point is the diminished coagulability of the blood, in consequence of a continued use of mercury. But it has yet to be proved that metallic quicksilver is formed out of the preparations taken, and that the globules can be found in the bones, the urine, and the saliva. Probably, however, the mercury remains for a certain length of time intimately connected with the organic tissues, and is perhaps never entirely separated again.

Turning now to clinical observations, we find that inunction does not disturb the digestive organs, nor, properly managed, irritate the skin; the insoluble preparations produce a moderate irritation of the gastric and intestinal mucous membrane, but the soluble ones corrode the mucous membrane of the stomach. Given in conjunction with sufficient quantities of albumen, these last preparations will lose most of their corrosive quality. The common effect of all mercurial preparations reaching the blood is the so-called mercurialism, of which an acute and a chronic form

may be distinguished. The former manifests itself by the well-known affection of the gums and a copious salivation; the chronic form is recognized from certain disturbances of the animal economy generally, and the nervous system especially—the mercurial cachexia. Which one of these forms will appear, depends upon the quantity of mercury taken in a given time, upon the constitution of the patient, and upon certain chemical combinations. The more mercury is taken in a short time, the quicker salivation will appear; small doses given for a long time, will rather produce chronic mercurialism. It is well known that children are not easily affected with salivation; tall persons, with a firm, muscular tissue are also not very liable to this affection. Certain remedies, the preparations of iodine especially, counteract the effects of quicksilver; calomel produces salivation sooner than iodate of mercury. Other agents seem to promote the salivating property: the cyanide works more readily in that regard than the chloride.

The anti-syphilitic power of mercury being entirely dependent upon its transmission to the blood, those preparations ought of course to be principally employed which disturb the least the digestive organs, and these are calomel, the simple iodate and the albuminate for internal use, the gray ointment for external application. The last name is undoubtedly the most advisable wherever a speedy general effect is wanted; inunction will do in the shortest time, and in the most perfect manner, what any preparation of mercury can do. In many cases this form of exhibiting mercury is quite indispensable, and cannot be replaced by any other. The only objection to it is the salivation growing often, in spite of all caution, more violent than is wished for. For internal use calomel ought to be placed first, the general effect being most rapidly produced by it; too violent operation of it can be checked by cathartics. One grain twice a day, or, to hasten the effect, half a grain five or six times a day, is a sufficient dose for a grown person; as soon as the gums begin to be affected, the remedy ought to be dispensed with. The iodate is too preferred in persons who are readily affected with violent salivation, but, being more irritating than the calomel, smaller doses are advisable—about half a grain three or four times daily. The albuminate of mercury would be preferable to both the preparations named if it could be given in pills, this being the most convenient form to almost all patients. All other preparations can be disregarded in the treatment of syphilis. The opinion entertained by many, that some preparations of mercury possess a specific power against certain localizations of the syphilitic process, is not proved by experience; with any mercurial preparation one local affection will disappear sooner, another later. The whole complex of symptoms is modified almost suddenly by a speedy appearance of mercurialism; where this is produced gradually, the improvement likewise takes a more protracted course.

But is, then the mercury a specific remedy for the venereal disease? Most certainly it is not; mercury does not cure syphilis; the disease is only put back by the appearing mercurialism, and is always returning again as soon as the effect of the mercury ceases, assuming a form corresponding with the more or less debilitated constitution of the patient. It is not merely an infection of the blood, but a disease affecting the whole organism, and consequently can not be eradicated but by the gradual change of all the materials composing that organism. The means to accomplish, or favor, this change, are not to be found in the druggist's shop. A proper change in the mode of life, a strictly regulated diet, will do more than all medicines. Sometimes no medicine whatever is required; cases have been observed, where, under favorable circumstances, not only some of the symptoms, but even the syphilitic diathesis itself disappeared without any medication. Everything which disturbs digestion, respiration, or nervous activity, has a deteriorating effect in regard to the venereal disease; too much mercury favors rather than cures even the worst forms of it. It is now an established fact, that syphilitic caries and necrosis are not developed but in persons laboring under mercurial cachexia. Tending to an amelioration of that dreadful disease are, living in a warm climate with an even temperature, a regular mode of life, avoiding all kinds of excess, a good nourishing, easily digested diet, bathing, exercise, etc. Antiphlogistic treatment, species lignorum, etc., may be employed as valuable assistants; sarsaparilla, guaiacum-wood, and other so-called surrogates of quicksilver, have a more or less cathartic, diuretic and diaphoretic effect; in other words, they promote the change of the organic matters; hunger is serviceable inasmuch as it retards a too speedy renovation of these matters, and keeps thereby the organism in a state most favorable for the eradication of constitutional disease.

In establishing these principles, mercury is not entirely rejected, it is on the contrary recommended as the most important, though not always indispensable medicine against syphilis. But the basis of the whole treatment must always be formed by a strictly regulated general regimen. The use of mercury, however, is contra-indicated whenever the body is still suffering from the effects of the same, which is apparent in an anæmic condition, nervous irritability and diminished energy of the motory actions. The local manifestations of syphilis show under the influence of such a condition, tuberculous forms, caseous and gangrenous exudations (Rhypia, Ecthyma, Lupus,) affections of the bones, etc., with great inclination to purulent decomposition. It is, in short, in the so called tertiary syphilis, where mercury ought to be avoided and iodine employed in its place, assisted by saline and sulphurous baths. Mercury is also not required in the primary forms; the fresh chancre, not yet indurated, being a local affection, yield-

ing to local treatment; but the quicksilver is highly serviceable against occult chancres located in the urinary passages or the female parts of generation. Everything depends here upon a speedy repulsion, and the mercury is exactly the remedy to effect this. The same principle holds good in regard to open chancres of an older date, or much irritated, where the general infection is yet doubtful. The mercury is, lastly, quite indispensable in all the secondary forms, and especially when important organs, the iris, for instance, is endangered. Pregnancy, tuberculosis, and hemoptysis, form no objection to mercurial treatment, and again the hereditary syphilis appearing in children we have scarcely another remedy of similar usefulness to resort to.

Salivation is not to be dreaded; on the contrary, it is just the thing wanted, and the sooner it is produced the better; of course it has to be kept within reasonable limit. The usual increasing and decreasing doses of mercurial preparations are, however, objectionable; the pretended accomodation of the body to the remedy given in this manner, is always a very doubtful affair, and the general effect of all the preparations being essentially the same, it is evidently the best plan to induce this effect in the manner most convenient, that is, to begin with some suitable mercurial remedy in sufficient doses.

These propositions, based on physiological facts, a patient observation and the most logical reasoning, recommend themselves to the attention of every practitioner. It seems almost impossible to refute any part of them, and we may, therefore, consider the old question, if syphilis ought to be treated with mercury or not, fairly settled forever.—[*Cleveland Med. Gazette*.

On the Administration of Medicine to Children.

M. WAHU having much to do with the diseases of children, wishes to impress upon practitioners the importance, in the case of important medicinal substances, of having them administered, whenever practicable, in their own presence. He also states some of the means he adopts to enable certain medicines to be more easily got down. Thus the sub-nitrate of bismuth, in large doses, which is of such value in diarrhœa and the gastro-intestinal affections of children, often subsides to the bottom of the spoon when given in broth or milk; and it is much more readily taken also by children of about two years old when given in chocolate prepared with water, and thickened with tapioca or crumbs of bread. In this way seventy grains and more may be given night and morning. In the same way *iron* can be very readily given. *Ratany* and *catechu*, two precious drugs, the action of which, when in small doses, is soon manifested in children, can also very readily be given in this chocolate panada. Chocolate made

with either milk or water, and flavored with canella or vanilla, is usually very readily taken by children, and its dark color facilitates the mixture of numerous colored medicinal substances, which would be observed by the little patients were they given in milk, broth, or any infusion. Ratany and catechu may also be well triturated and mixed with quince jelly, the flavor of which, while masking that of other substances, is very agreeable to children. Sulphate of soda and sulphate of magnesia are substances very difficult to get even adults to take. The sulphate of soda may often be administered to children, by dissolving ten parts in 150 of unsalted beef-tea, and waiting until the child is sufficiently thirsty to swallow a cup of liquid almost without tasting it. For adults, the best means is to dissolve the sulphate of soda or magnesia in exactly the quantity of hot water necessary for its complete solution. This is allowed to get cold, and a glass of pretty strong lemonade is prepared. Holding a glass in each hand, that containing the salt is rapidly drunk, and then the lemonade is slowly drunk—masking the detestable taste of the purgative, and supplying each fluid to prevent its proving too irritating. *Corsican moss* is another substance which children take with difficulty; but if an infusion be made and strained, and then added to unsalted beef-tea, it will be readily swallowed. *Calomel* is one of the most difficult medicines to give, when children are too young to swallow pills, which is the case under six years of age. Incorporating it into honey is the best means—rinsing the mouth afterwards, to prevent any adhering to the gums. It should never be given in currant, or any other jelly; a death having occurred a few years since from the conversion of the calomel given in currant jelly into a bichloride. It is safest to prohibit any acid drink being taken on the day that calomel is given. *Ipecac.* may be given either in the chocolate panada or in honey. When it is impossible to give any medicinal substance by the mouth, it may be administered by the rectum, taking care first to empty the gut by tepid water or an emollient decoction, and that the bulk of the medicated enema do not exceed from four to six ounces, so that it may be retained and absorbed.—[*Druggists' Circular.*

On the Influence of Sex on Diseases of Children. By Dr. ROBERT KÜTTNER, of Dresden.

THAT sex exercises a decided influence upon diseases and their course long before the development of puberty, is well evinced in early infancy. It is one of the important tasks of pathology to study this phenomena more closely, to establish the facts having relation to it by accurate statistics, and to find out, as far as possible, the real cause of the same. Dr. Küttner's treatise is a valuable contribution toward the solution of this question,

as his statements are founded upon the statistics of ten thousand cases treated in the Children's Hospital of Dresden, during a period of over ten years. Referring our readers for particular data to the treatise itself, we only give the conclusions which the author lays down as the result of his statistical researches. They are the following:—

1. Boys are, particularly in the first year of their life, much more liable to diseases of the digestive organs than girls; they bear therefore an improper mode of feeding less easily, and die, the relative mortality of both sexes being equal, in an absolutely greater number of diseases of this kind.

2. Nervous and cerebral diseases are, especially from the fifth year, nearly twice as frequent in boys as in girls.

3. Boys are more disposed to umbilical and inguinal hernia than girls.

4. Girls, after their third, and particularly after their fifth year, are more inclined to diseases of the respiratory organs, and die of them in greater number.

5. The same is the case in regard to diseases of the heart.

6. In acute diseases of the blood the difference of sex does not seem to exercise any influence; chronic anæmia, however, and scorbutic cachexia, are much more frequent in girls than in boys, especially after the eighth year of life, (in the proportion of ten to one.) Scrofula and tuberculosis are, at the beginning, nearly equal; but from the fifth year pulmonary tuberculosis is more frequently met with in girls. Rachitis occurs in equal number in both sexes, but is often somewhat later developed in girls, and is of longer duration in them than in boys.

7. Chronic diseases of the skin (particularly of the scalp) are, after the ninth year, more frequent in girls than in boys.

8. The same is the case in regard to swellings of the thyroid gland.—[*Journal für Kinderkrankheiten*, and *North American Med. Chir. Review*.]

After Effects of Diphtherine.

DR. FAURE, of Paris, has, in a series of cases collected from various sources, directed attention to a peculiar sequela of diphtheria, in which, some time after all trace of the original complaint has completely disappeared, the patient becomes, without known cause, pale and colorless, at times one portion of the frame and sometimes another seems to suffer most. The legs can no longer carry the body; the arms lose their power; the soft palate dangles like a dead curtain; swallowing, and even breathing, becomes almost impossible; the pupils are dilated, and vision much impaired; sensation is diminished and sometimes entirely lost, or replaced by formication. In some, sundry parts of the

body become cedematous, in others gangrenous; others again are subject to repeated faintings. General reaction is not observable, fever rare, the skin in a certain degree moist. Reason flashes betimes through the gradually increasing dull stupidity, or a wandering smile may now and then light up the vacant countenance; and death finally closes the scene either by syncope, or as the last stage of exhaustion, like a gradual extinction of life. This affection has been referred to by Bretonneau, Trousseau, Blache, and others. Bretonneau regards these symptoms as the effect of a diphtheritic blood-poisoning. The most successful treatment has consisted in the administration of quinine and iron.—[*Edinburgh Med. Journal.*

Arsenic in Obstinate Chronic Bronchitis.

DR. WOOD, observed that his attention had long since been attracted to the probable existence, in certain cases of obstinate chronic inflammation, no matter in what part of the body it might be situated, of the same state of system which gives extreme obstinacy to some cutaneous eruptions, such as psoriasis and lepra. This view is of practical importance; as arsenic, having proved a most effectual remedy in the cutaneous affections alluded to, might be equally beneficial in obstinate chronic inflammation elsewhere, if possessed of the same systemic character. The idea is not a new one. Professor Simpson, of Edinburgh, having been led to the supposition that a certain obstinate affection of the bowels, not uncommon in that city, was of a nature similar to cutaneous eruptions, employed arsenic in it with very beneficial effect. The same remedy has been long employed in obstinate periostitis, and with great asserted benefit in chronic nodosities of the joints of a rheumatic character. I have frequently thought of using it in chronic bronchitis, which had resisted ordinary treatment, but never carried the idea into effect until, in a case of nine or ten years' duration, which came under my notice some time since, connected with psoriasis of the face, I had a fair opportunity of trying the remedy. Under the use of Fowler's solution, in the dose of from three to five drops, three times a day, continued for six or eight weeks, the cutaneous eruption and chronic bronchitis were both so much relieved that the remedy was discontinued. Indeed, both affections had almost, if not quite, disappeared; and the patient had not been equally free from his bronchial affection at any time for years before. In consequence, however, of apprehension of injury to the stomach, not well founded, I believe, he prematurely omitted the medicine; and three or four months afterwards both affections began to reappear. I am again using the solution in the case, and thus far with a similar result.—[*Transactions of the College of Phys. of Philad.*

On the Curability of Tubercular Meningitis. By Dr. O. BANG.

ALTHOUGH many physicians deny the curability of tubercular meningitis, (hydrocephalus acutus,) as, for instance, Camper and Trousseau, some others have proved from their own experience that a cure may be sometimes obtained, though such cases be of very rare occurrence. West saved, of thirty-four children, one; Guersant, of an hundred in the second stage, one; in the third stage, however, none. Rilliet, who has collected and compared all the cases of cure in the *Arch. Générales*, (December, 1853,) doubts many of the favorable cases, and admits only eight cases reported by others, and three observed by himself, to have been real cases of tubercular meningitis. To these cases Liégard (*sur la nature et le traitement de la fièvre cérébrale*) adds a case of his own, and six observed by his father; the total number of cured cases on record are thus eighteen.

Those who maintain the incurability of the affection suppose that in the cases reported as cured, simple inflammation of the brain, or remittent fever, worm-fever, hydrocephaloid, etc., had been mistaken for tubercular meningitis. The author believes that an exact differential diagnosis between simple and tubercular meningitis can hardly be established. According to his opinion, meningitis consists in an active congestion, followed by an inflammation which assumes a different character when the blood is healthy, and when it is diseased; in the former case the disease is simple, in the latter it is complicated. *The tubercular meningitis is characterized by its occurrence in scrofulous children*; the meningitis is here complicated with a disease of the blood, and is thus to be treated according to the same rules which are observed in the treatment of any inflammation accompanied by a morbid condition of the blood. A complete cure is possible only when an amelioration of the crisis of the blood can be effected, and this is very difficult after a localization of the disease has taken place. Only if a meningitis appears suddenly without premonitory symptoms, and is accompanied by violent fever, abstraction of a considerable quantity of blood is necessary; the use of this measure requires, however, great caution when the disease commences more slowly, and the child bears the characters of the scrofulous cachexia.

A prophylactic treatment is indicated only in cases of the latter kind; it consists in the use of anti-scrofulous remedies and of derivatives, when the children have a disposition to congestion of the brain; at the same time all strong impressions upon the brain should be carefully avoided.

The author has treated three children in this manner, who had lost their brothers of tubercular meningitis, and in whom certain symptoms threatened an attack of the disease; blisters to the nape of the neck were of particular use in this instance.

If the parents are scrofulous, or if there is a hereditary tendency in the family, Dr. Bang subjects the women to an anti-scrofulous treatment during their pregnancy, and has found this plan very successful in one case. Cold affusions upon the head while the child is sitting in a warm bath are very useful, not only as prophylactic, but also as curative means; if, however, the state of exudation has commenced, he uses, instead of them, powerful derivatives upon the shaved head, such as blisters, croton oil, ointment of tartar emetic, etc. In three cases in which considerable exudation had already taken place, the cure was very much promoted by an ointment composed of unguentum hydrargyri, tartar emetic, and ol. tigllii. In simple as well as in tubercular hydrocephalus, calomel, in doses of three to eight grains, is the most useful laxative; in chronic cases the author gives it, however, in smaller doses in combination with digitalis, as an antiphlogistic. As calomel seemed to promote vomiting, the author prescribed frictions with mercurial ointment on different parts of the body; this application was employed in two cases, which were cured. Two cases were treated with iodine in combination with other remedies, and also in these a cure was obtained by the author; in other cases, in which he used iodine alone, it seemed to diminish vomiting, but did not effect a cure.

In accordance with this experience the author considers tubercular meningitis curable, and is supported in his opinion by cases reported by reliable observers, in which all the symptoms of the disease were present, and which were, nevertheless, cured. If the physician is called in early enough, and follows the plan of treatment recommended above, there is, according to the author, hope of the disease being cured.—[*Bibliothek für Laeger*, and *North American Med. Chir. Review*.

New Mode of Relieving Retention of Urine.

LANGSTON PARKER, Esq., Surgeon to Queen's Hospital, Birmingham, states (*British Medical Journal*, May 21, 1859) that he has very recently succeeded, in two separate instances, in relieving retention of urine in the following manner:

"A gentleman lately entered my consultation room in great pain from retention of urine. He had not passed water for many hours; the bladder was much distended. He stated that ineffectual efforts had been made to pass the catheter, during which operations he had lost a considerable quantity of blood. I attempted to relieve him by the catheter, but failed to do so; I tried instruments of various sizes and various curves, but could not succeed in passing one into the bladder. I then took a No. 2 wax bougie, and inserted a small portion of potassa fusa into

the end of it, after the manner proposed by Mr. Whateley, and practiced by Mr. Wade in the treatment of permanent stricture of the urethra. I well moulded the wax over all but the extreme point of the caustic, and passed it rapidly down to the point of obstruction; by pressing against this for a short time it yielded, and I had the satisfaction of finding the bougie easily enter the bladder. I directed the patient to strain as I withdrew the instrument; a stream of urine followed, and the bladder was emptied. The retention did not again occur, and very little irritation accompanied or followed the proceeding. On the next day the patient made water freely, but in a small stream.

"The second case was very similar. The patient had travelled some distance by rail. The bladder was much distended, the symptoms urgent, and a catheter could not be made to enter the bladder. A small wax bougie was armed as in the last case, passed down to the stricture, and firmly pressed against it. It yielded very shortly; the instrument entered the bladder, and a stream of urine followed its withdrawal. This patient had a second attack of retention two days afterwards, which was completely relieved in the same manner.

"A modification of this plan might be attempted by inserting a small piece of potassa fusa into the extreme point of a small gum-elastic catheter, and using it without the stilette. I am sanguine enough to hope that many cases of retention of urine might be easily and quickly relieved by the simple means I have suggested, and more formidable and dangerous operations thus frequently avoided."—[*American Jour. of Med. Sciences.*

On the Treatment of Hooping Cough.. By Dr. J. WHITEHEAD.

It is too generally assumed that, except by change of air, hooping-cough cannot be modified by any treatment to a perceptible degree; that it is, at least, possible to abbreviate its course, is proved by the following statistics:—

In thirty-five cases of hooping-cough, admitted to the hospital clinics at Manchester, after an average duration of the disease of more than three months, a cure was obtained in less than twenty-five days at an average; and it is probable that not much more time would have been required, in order to obtain the same result, if the children had entered the hospital six or eight weeks sooner. That such would have been the case is proved by the fact that in eighty-seven cases in which the treatment was commenced after the second week of the disease, the average duration of the treatment was the same as in the first series of patients; the duration of the disease was thus reduced to thirty-seven days. The average duration of the disease was forty-two days in the totality of the cases, and one hundred and eleven days in those cases which had been neglected.

Among the eighty-seven cases of the second series, there were thirty-two in whom the average duration of the disease, at the time of their admission, had been eleven days; and fifty-five in whom it had been five days. In the former, the average duration of the whole disease was thirty-five days; in the latter, but thirty-two days.

The treatment employed consisted, in simple cases and in such in which the existing complications had been removed, in the administration of Dover's powder, either alone or combined with camphor, which was used either internally or in fumigations; in the use of emetics, belladonna, and of revulsives. In all cases opium or belladonna served as the basis of the treatment.—[*Third Report of the Clinical Hospital, Manchester, 1859. N. A. Medico-Chirurg. Review.*

Impotency treated by Electricity.

J. ALTHAUS, of London, narrates a case of Impotency successfully treated by Electricity (*Deutsche Klinik, 1858, 1.*) He considered the cause of entire absence of erections of the penis, in an otherwise healthy man, æt. 45, an idiopathic atonic condition of the musculi-ischio and bulbo-cavernosi. These muscles by their contraction, have the office to compress the vena dorsalis penis and the crura of the corpora cavernosa, and thus impeding the return of blood, to swell and erect the penis. He made use of Faradization. The patient was placed in a position as for lithotomy, the scrotum raised, and the electricity for ten minutes, first slowly and lightly, and then strongly and directly communicated to the bodies of the before named muscles. The result was very satisfactory. Two days after the first application the patient had erections, and was capable to fulfil with vigor his marital duties, which had not been the case for over a year. A return of the paralytic condition of the muscles was afterwards also entirely and radically cured by four applications. Dr. Althaus claims no novelty for this proceeding, as he was well aware that Schultz, of Vienna, had treated successfully eleven cases of this sort by electricity. Also, Hassenstein and Duchenne published cases where Faradization was attended with entire relief. Organic changes of the urogenital system certainly contra-indicate always this treatment.—[*Cleveland Med. Gazette.*

On the Treatment of Spina Bifida by Injections of Iodine. By DANIEL BRAINARD, M. D., Professor of Surgery in the Rush Medical College.

In this essay Dr. Brainard, after discussing the seat and pathology of hydrorachitis, considers the different modes of treatment

instituted for its relief, and gives the results of fifty-nine cases treated by puncture, excision, ligature, and pressure. From his table, we find that of 35 cases in which punctures had been made, 17 resulted in cures, 16 in death, 1 was palliated, and the result of 1 was unknown: 11 cases were subjected to excision, with 7 cures, 3 deaths, the result of one being unknown. Ligation was instituted in 8 instances, 5 being cured, and 3 terminating fatally. In 5 cases, pressure gave the result of 3 cures, 1 death, and 1 palliation.

The treatment of spina bifida by injections of iodine was first instituted by the author, and he illustrates his paper by ten cases treated in this manner, five occurring in his own practice, two in that of Dr. Crawford; Chassaignac, Velpeau, and Nélaton, having each had one case. The oldest patient was thirteen, the youngest a new-born child, and in four there also existed chronic hydrocephalus.

Of the ten cases thus treated, five were cured, three died, and in two the results are uncertain, having occurred in the practice of MM. Nélaton and Velpeau. It is proper to state, however, that in one of the fatal cases hydrocephalus coexisted, and was the probable cause of this termination, as the spinal canal was found closed, and there was no irritation about the tumor to account for death. In another fatal case the spina bifida was cured, and the child died seven months afterwards from hydrocephalus. The result cannot, therefore, be attributed to the injections of iodine.

Dr. Brainard deems interference improper when the tumor is small, and the patient is somewhat advanced in years and in good health. Also in children affected with acute disease, especially of the brain and spinal cord.

The rules adopted by the author in making these injections are as follows:—

1. Make the puncture in the sound skin at the side of the tumor.

2. Inject the solution of iodine and iodide of potassium, commencing with one-fourth of a grain of the former to three-fourths of a grain of the latter, and retain it by slight pressure.

3. Evacuate no more of the liquid than the quantity of injection about to be thrown in.

4. If convulsions supervene, the fluid may be drawn out and its place filled with distilled water.

5. Lay the patient on the face, and if there be heat, apply evaporating lotions to the tumor and to the head.

6. When the tumor becomes flaccid, apply collodion or other means of contracting the skin. This should be continued for some months after the swelling has disappeared.

7. After the effect of an injection is past, repeat it as many

times as may be necessary, and gradually increase the strength according to the effect produced.—[*Chicago Med. Journal.*]

Secondary Syphilis Contagious.

THE Academy of Medicine of Paris, at its sitting of the 31st May, witnessed a scene which the editor of the *Revue de Thérapeutique* calls an event. It was a partial renunciation on the part of M. Ricord of one of the articles of his medical faith, for which he has long contended against the greatest odds. M. Ricord has always been a firm supporter of the views of Hunter, in relation to the non-contagiousness of secondary syphilis, but the event of the academy referred to shows that his views in this respect have undergone a change.

In October last, a letter from the minister of public works, &c., submitted to the Academy the following questions:

1. Are the symptoms of secondary syphilis contagious?
2. Regarded as contagious, are the effects in infants at the breast different from those observable in the adult?

These questions were referred to a committee, composed of MM. Gilbert, Velpeau, Ricord, Devergie, and Depaul, who reported through M. Gilbert, at the session of May 31—that

1. There are secondary or constitutional symptoms of syphilis manifestly contagious. At the head of these it is necessary to place the mucous papule or flat tubercle.

2. This proposition applies to the nurse and the infant at the breast as well as to other subjects, and there is no reason to suppose that in infants at the breast the results of these symptoms have properties different from those observed in the adult.

Answered so categorically, and enclosing in its terms so complete a denial of the Hunterian doctrine of non-contagion, it was necessary for the great expounder of Hunter to qualify his renunciation, which he did in a long address from the tribune of the Academy, closing as follows:

Therefore, I conclude that the report which should be sent to the minister, in reply to his demand, should be cautiously expressed, admitting, if you will, the possibility of the contagion of the secondary symptoms, but without specifying anything more at present—*Fiat Lux.*—[*Virginia Med. Jour.*]

Prophylactic Treatment of the Sequelæ of Measles and Scarlet Fever.

By PROF. SCOUTETTEN.

M. SCOUTETTEN, chief physician of the Military Hospital of Metz, advises frictions with warm sweet-oil all over the body, the face included, when the redness is gone. After this friction the patient is replaced in bed, where he should remain about

two hours. The next day he should take a warm bath, and remain in it one hour. After the bath he is replaced in bed, and two or three hours afterwards, when the skin is quite dry, another friction is made similar to the first. This is generally sufficient to ward off the unpleasant and well-known sequelæ of the two above-named exanthematous fevers; but when the attack has been violent, and the dead epidermis has not completely fallen off, these means should be resumed until the dermis has regained its functions. M. Scoutetten has rarely gone beyond four frictions and two baths. These precautions being taken, the patients can, according to the author's experience, go out with impunity.—[*Gaz. Hebdomadaire*, and *North Amer. Med. Chir. Review*.]

On the Induction of Premature Labor by Uterine Catheterism. By Prof. BRAUN, of Vienna.

PROFESSOR BRAUN, of Vienna, states that he has for several years given a preference to this mode of inducing premature labor; inasmuch as it is very certain, operates rapidly and safely, brings on the pains with gradual energy, gives rise to no ill consequence, such as congestion or injury of the uterus, or detachment of the placenta, and is performed by the single application of a simple instrument. One disadvantage of the procedure is, that the membranes may become somewhat easily ruptured, especially in primiparæ. In order to prevent this accidental rupture, the author softens in hot water the end of a well-oiled catgut bougie, a foot long, and from two to three lines thick, and passes it along the index finger with a twisting movement into the uterine cavity, until only a portion, equal to two fingers' breadths, remains in the vagina. The bougie so passed always excites pains in from six to twenty hours, does no injury to the membranes, and is to be removed only just before the discharge of the waters, or the birth of the child. The employment of a gum catheter, having a very thin, flexible stilette, is usually also attended with good effect. Its application is difficult, however, when the vagina is narrow, and deviates from the pelvic axis. During the session 1857 and 1858, Professor Braun employed catheterism twelve times, nine children being born alive, and six dead—three being twin-births. Of the mothers eight recovered, and four died during the puerperal state, pneumonia, tubercle, and Bright's disease having been respectively the causes of death. The labor was terminated at an average period of twelve hours after the introduction of the catheter. Brief accounts of these twelve cases are subjoined.—[*Wien medizin. Wochenschrift*, and *North Amer. Med. Chir. Review*.]

On the Treatment of Chorea by Cauterization. By DR. HAMON. DR. HAMON has treated two cases of chorea with the potential

cautery ; in one of them the affection had assumed a very serious form, the convulsions involving nearly the whole body, and continuing unabated even during the night. The use of sulphur-baths, and the systematic administration of tartar-emetic, according to the method of Gillette and Bonfils, having produced no amelioration in the condition of the patient, Dr. Hamon applied amianth, soaked in concentrated nitric acid, to the side of the dorsal and lumbar parts of the spinal column, in such a manner that sixty small punctiform burns were produced at a distance of about one centimetre from each other, which healed in eight to twelve days without leaving any distinct cicatrix. On the evening of the same day the patient could already speak with greater ease, passed a comparatively quiet night, and the convulsions had lost much of their intensity. The operation was repeated twice, at intervals of several days, and effected a complete cure within three weeks, the disease having existed one month before the treatment was commenced.

In the second case, the disease presented a milder form, and affected only one side. After using sulphur-baths, without any benefit whatever, the patient, a girl sixteen years of age, was subjected to the treatment by cauterization ; the cautery was applied only once, at eighty different points, and as in the former case, the symptoms were decidedly ameliorated the same evening.

The pain attending the operation is said to be very slight and transient ; the œdema occurring in the commencement disappears very soon, and no suppuration takes place if the application is made but superficial.—[*L'Union Médicale*, and *N. A. Med. Chir. Review*.

Iodide of Potassium as an Antigalactic. By Professor ROUSSET.

THE troublesome milk-knots which tend to appear especially at the commencement of lactation, giving rise to fever, inflammation of the breast, and abscesses, indicate a diminution of the secretion of milk by therapeutic means. As the usual measures (emollient cataplasms, dieting, and laxatives) had frequently proved insufficient, the author tried the iodide of potassium. The results were as follows : The iodide of potassium occasions a considerable decrease of the milk, and in consequence prevents and removes milk-knots, particularly if at the same time the child is not put to the breast. The milk returns quickly, if the medicine is not used any longer than two to three days ; its effect is more decided if the dose does not exceed forty to fifty centigrammes daily. The secretion of milk can be prevented almost completely if the iodide of potassium is given on the first or second day after delivery. The author gives a full report of seven cases to confirm the above statements.—[*Jour. de Bourdeaux*, and *North Am. Med. Chir. Rev.*

EDITORIAL AND MISCELLANEOUS.

END OF THE FIFTEENTH VOLUME.—The present number closes the Fifteenth Volume of the *new* series of the Southern Medical and Surgical Journal. Established originally in the year 1836, this work has continued, with but a brief interruption, to exercise an elevating and improving influence on the Medical Profession of the South, and during the last fifteen years, one unbroken series of fifteen volumes, freighted with the best treasures that both Contributors and Editors could supply, have ranged themselves on the bookshelves of its subscribers. In age, therefore, we hold an honorable position, and among the medical periodicals of the South, we think we can claim the distinction of being the first enterprise of the kind.

While we are disposed to congratulate ourselves on the advanced age we have attained, we still feel and profess the vigor of an annually renewed youth. With the aid of those able collaborators who have heretofore assisted in sustaining the influence and increasing the usefulness of the *Southern Medical and Surgical Journal*, the present Editors hope still to labor in the arduous work, during the approaching year. We have therefore no "parting words" for those who have been our readers during the past season, but in the beginning of another volume, hope again to present our salutations and our renewed vows of continued faithfulness for the coming year.

SIXTEENTH VOLUME OF THE SOUTHERN MEDICAL AND SURGICAL JOURNAL.—In consequence of the absence of the parties from the city, arrangements for the publication of the 16th Volume were completed too late for the putting forth of a regular Prospectus, of that volume. This will probably accompany the January Number.

Business Letters relating to the *next volume* of the Journal, will be addressed to Dr. WILLIAM S. JONES, *Publisher*, AUGUSTA, GA. Contributions will be directed as heretofore, to the present Editors.

TO OUR READERS.—For reasons personal to himself, our present Publisher declines the publication of the Journal for the coming year. Arrangements have been made which will secure the continuance of the work, with little or no interruption. The delay in the present number, is caused by the time which the *Editors* have unavoidably occupied in arranging the unusually lengthy Index, necessary for the great variety presented by this Fifteenth Volume.

In closing the relations of Editor and Publisher, with our esteemed friend, Mr. Morris, we must, in justice to our own feelings, express our satisfaction at the indefatigable care and skill with which he has exe-

cuted the arduous labor assigned him, in the publication of the Journal and at the uniformly kindly relations ever existing between us.

To those of our Subscribers, who are yet in arrears for the last and previous volumes of the Journal, we now present the earnest request, that they transmit the several amounts at their earliest convenience, *directly to Mr. J. Morris*, Augusta, Ga. An early compliance with this request, will prevent much confusion and trouble to the future Publisher, and will, at the same time, be doing no more than simple justice to one, who has labored diligently, faithfully, and ably in a work, which, it must be recollected, if it does not pay him *money*, can never now, pay him *anything*.

Lectures on Surgical Pathology, delivered at the Royal College of Surgeons of England. By JAMES PAGET, F.R.S., &c.—2nd American edition. Philadelphia: Lindsay & Blakiston. 1859. 8vo., pp. 700.

The demand for a second edition of a work of this character speaks well for the intelligence of the American Medical Profession, for it is not such a book as the active practitioner may pick up and hurry through in quest of some new prescriptions, or short road to success; but it is one of deep philosophy, which will repay only those who subject it to careful study, in order more fully to appreciate the changes in the intimate textures of the body under the influence of various morbid actions. Without sound pathology there can be no correct practice, and it is gratifying to see that the profession is awake to the importance of keeping pace with the advances in this department of knowledge. The Lectures of Prof. Paget comprehend the subjects of Nutrition, Hypertrophy, Atrophy, Repair, Inflammation, Specific Diseases, Tumors, Cancers, &c., and are delivered in a happy style, eminently calculated to impart interest and to facilitate comprehension. The illustrations, with which the book abound, are well done and add very much to its value.

D.

A Treatise on Gonorrhœa and Syphilis. By SILAS DURKEE, M.D., &c., &c.—with 8 colored Plates. Boston: J. P. Jewett & Co. 1859. 8vo., pp. 435.

The importance of the diseases here treated of will secure for any new work upon them a careful perusal; and the fact that this is an entirely American production gives it additional interest in our eyes. Dr. Durkee has faithfully executed his task in summing up the doctrines and practice of the best authorities, and has added to them the advantages of his own extensive experience.

D.

MESSRS. EDITORS:

Allow me, through your journal, to correct an error I have just observed in the "System of Surgery" recently published by Professor Gross. At page 158 of the second volume, and under the head of Fractures of the Clavicle, it is said that "Dr. Dugas, of Georgia, is in the habit of treating fractures of this bone *with* a pad and with a triangular piece of thick unbleached muslin," &c. I am, on the contrary, in the habit of treating these fractures *without* a pad. This is evidently a mere typographical error; but inasmuch as I abandoned the use of the axillary pad, as unphilosophical and injurious, upwards of twenty years ago, and have had no cause to regret it, I desire not to be misunderstood by the readers of the valuable work in question.

Yours, very Respectfully,

Augusta, Ga., 25th Nov., 1859.

L. A. DUGAS.

LETTERS FOR ADVICE.—We present the following to our readers with the single comment that, we see no good reason why an opulent patient should not pay a consultation fee for a service which is often more onerous and involves far greater responsibility than any personal conference in regard to his case. The attending physician should plainly state to his patient, that he desires the opinion of a distant adviser for his benefit, and that the established charge for such a letter is equal to a consultation fee. Were this done, we think that few patients would refuse to pay, most cheerfully, the reasonable and just charge.—[*Edts. Southern Med. and Surg. Journal.*]

It has been our lot, during the last twenty years, to receive an amount of letters of this kind—enough to fill the mouth of the crater of Vesuvius, and all the money we have obtained for our answers would not, all told, we are sure, enable us to buy a first-rate horse and buggy. If the time thus spent could be correctly estimated it could not possibly be found to be less than six or eight months, involving a vast amount of toil and inconvenience, to say nothing of expense, which, in the aggregate, must have been very great. We recollect paying for one letter, when the postage was twenty-five cents, half a dollar. It covered nearly ten pages of foolscap, giving the most minute and circumstantial details of a case that was not of the slightest interest to us in any way. Of course, that letter was sent to Gehenna long before one-half of it was read. To have done otherwise would have been impossible. If only our *friends* knew how these letters annoy and worry us, they would not, we are sure, so constantly inflict them upon us. What are their patients to us, that we should be compelled to read the tedious accounts of their cases, and, worse than all, answer their selfish lucubrations? Do they suppose that we have no other business? Verily, verily, gentlemen, we say unto you that such messengers are tolerable only when they inclose a proper fee. In England, and indeed throughout all decent Christendom, that fee is never less than five dollars, from which it ranges, in

many cases, as high as twenty-five. The sight of a bank-note is always agreeable to one who is compelled to earn his living by the sweat of his brow; but especially is it cheering to him whose eyes and hands are weary and aching with the labor of writing books and furnishing materials for the pages of a medical journal. Besides, how can a man possibly discern the strong points in such a letter if he is not properly remunerated for his services? The expectation of a fee always wonderfully quickens a physician's sympathy and clearness of perception. We never answer these charity-letters without a feeling of distrust that our advice may be anything but salutary. If we had a benevolence as diffusive as that of a Howard, we should rebel at labor and annoyance so ungenerously and so inconsiderately imposed upon us by the profession. A physician has no more right to ask such services gratuitously for his patients than he has to send for his professional brother in a case of ordinary consultation without the prospect of reward, when the patient is amply able to pay. A reasonable fee should always accompany the letter. The only exception to this rule is where a practitioner solicits advice for himself or some member of his family, or for a very destitute person.—[*N. A. Medico-Chir. Review.*

Narcotic Injections in Neuralgia.—Charles Hunter, Esq., House Surgeon to St. George's Hospital, at the close of a paper on this subject, in the *Medical Times and Gazette*, offers the following conclusions:

"In considering the results of the trial of the local treatment in the two cases, the advantages obtained appear to me to be—

"1. That much less constitutional (nervous) irritation attends the local introduction of the narcotic than when it is given by the stomach.

"2. That the effect of the narcotic is more immediately produced.

"3. The action of the narcotic appears more sure when injected. The exact amount taken into the circulation can be more readily seen, and the risk of contamination or alteration which it is exposed to, given by the stomach, is avoided.

"4. It appears to exert more benefit on the local affection when it has to be absorbed from the part affected itself, probably from being brought more directly into contact with the nerves involved in the disease.

"On the other hand, there are the disadvantages: these are, chiefly—

"1. The pain occasioned by the introduction of the fine canula.

"2. The chance of the fluid escaping from the wound or puncture.

"3. The production of local inflammation, effusion of blood, abscess."

[*Dental Cosmos.*

Test for Sugar in Urine.—*L'Union Médicale* has given its readers long scientific details respecting the best method which the practitioner can use for the purpose of ascertaining the presence of sugar in the urine in diabetic patients; and this conclusion is satisfactory, as it shows that the method in ordinary use is the best of all methods: "It is evident," the report says, in conclusion, "that for the ordinary use of practitioners, the test by the aid of caustic potash, or by lime, is sufficient. A glass tube, a spirit-lamp, caustic potash, or a bottle containing milk of lime, (*lait de chaux*.) are all the articles necessary for the purpose."—[*American Med. Monthly.*

Syrup of Proto-Carbonate of Iron.—In place of all the complicated recipes furnished for syrups of unchangeable protoxide, *et id genus omne*, we give the following as a simple and excellent preparation:—

R. Sodæ bicarbonatis (crystalized, if to be had) - - 1 drachm.
 Ferri proto-sulphatis (crystalized,) - - - - 1½ drachms.
 Powder coarsely and shake up, without application of heat, with
 Syrup simplicis, - - - - - 6 ounces.

One ounce of the syrup contains six grains of the proto-carbonate of iron.—*Journal Materia Medica.*

The Endermic Application of Medicines, will soon, in all probability, supersede their internal administration, at least in a great measure.

Mix ʒj. of laudanum, with ʒij. of olive oil, and rub into the epigastrium; in half an hour your patient may be asleep.

Belladonna applied to the forehead for neuralgia has been known to produce delirium and dilatation of the pupils. The same result followed its application to the pit of the stomach.

Opium applied to the epigastrium will also produce a narcotic effect. Thirty drops of laudanum, rubbed into the epigastrium, has produced quiet sleep, when the liquor morphice, administered internally, failed to produce the slightest effect.

For intestinal spasms, apply over the abdomen, hot cloths, sprinkled with tincture of opium, or tr. hyoseyami.

After infriktion of half a teaspoonful of tr. opii into the epigastrium, the pulse rises, the ideas increase in activity, incoherence and confusion ensue, a sense of fullness in the head, perspiration, and sleep in twenty or twenty-five minutes after the application.

With choleric ether, sulphuric ether, and chloroform, very similar effects follow.

The epigastrium more rapidly absorbs than any other part of the body.—[*Mr. J. B. Thompson, in Edinburgh Med. Journal.*

Antidote to Strychnine.—Dr. Bewley, wishing to kill a mangy cur, and having read in Magendie's "Report on Strychnia," that the sixteenth of a grain will kill the largest dog, determined to make sure of this very little animal by giving it about half a grain. But either Magendie's statement was incorrect, or the drug was adulterated, for at the end of ten minutes the dog, though suffering frightfully, was not dead. Dr. Bewly resolved to put him out of his misery at once, and accordingly mixed half a drachm of prussic acid with a little milk, and put it under the dog's snout, he lapped the milk with avidity, and in less than a minute vomited, got upon his legs, ran away, and recovered.—[*Literary Gaz.*

Ascarides.—A writer in the Medical Times and Gazette asserts, that the introduction of mercurial ointment into the rectum, has never failed to destroy these animals, in all the cases in which he has tried it. The ointment should be introduced into the rectum on the finger, as high up as possible. All itching and other unpleasant symptoms, are said at once to cease, but it is advisable to repeat the application three or four times.—[*St. Louis Med. Journal.*

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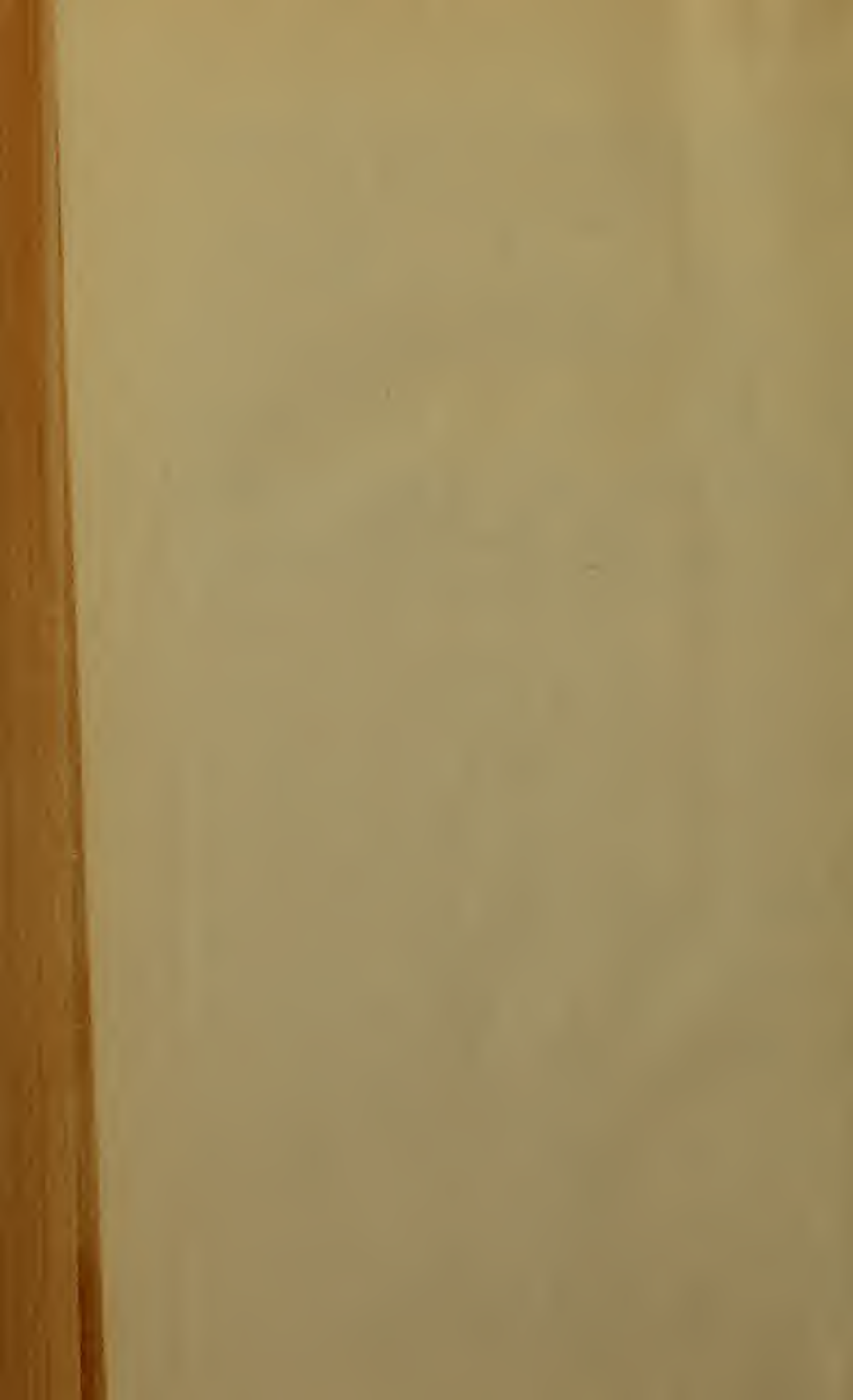
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