

SOUTHERN MEDICAL AND SURGICAL JOURNAL.

(NEW SERIES.)

Vol. XVI.

AUGUSTA, GEORGIA, JULY, 1860.

NO. 7

ORIGINAL AND ECLECTIC.

ARTICLE XVIII.

Case of Ovarian Disease, complicated with Pregnancy and immense Secretion of Liquor Amnii—Delivery of Twins at 5½ months—Recovery. By E. M. PENDLETON, M. D., of Sparta, Ga.

Some four years since, Mrs. C——, (a lady of small stature and delicate constitution), was delivered of her third child. Her recovery was somewhat tedious, involving symptoms of engorgement of the womb with partial paralysis. In fact, she never finally recovered her usual health, there being more or less disturbance of the uterine functions, until August, 1858, when she was taken down with irritative fever, during which time we discovered a tumor in the left side, which we immediately pronounced ovarian. She was put on a gently alterative treatment, her health gradually improved, and the tumor disappeared in a few months, so far as it could be detected by the hand. It is proper to state, that at one time we referred it to the spleen, from its position being rather higher than that generally occupied by ovarian tumors. But her barrenness for four years, and the subsequent history of the case, confirmed us in our first opinion.

During the past year her health was good, her uterine functions natural, catamenia regular up to the 7th October,

when she became *enciente*. The usual signs of pregnancy supervened, and nothing unusual occurred until about the fourth month, when she began to swell so rapidly that in one month's time she presented the appearance of full term, and was so distended as to suffer much pain and inconvenience. At this juncture, March 21st, we were called in, and found her in this condition. The enlargement seemed to be regular as in ascites—the pain, however, was referred to her left side, the seat of the old tumor, with a similar soreness. We could not distinguish fluctuation, and the tenseness was so great as to excite our fears as to the result. We put her on diuretics and hydragogues of a drastic character, such as jalap and cream tartar, but found no effect produced on the tumor by the medicine. There was and had been for some time quite a paucity of urine, but no œdema of the extremities or bloating of the face. We continued our treatment for ten days, with no relief; on the contrary, the abdominal enlargement became more tense, the pain more severe, particularly in the region of the old tumor, the patient feebler, with inability to walk or even sit up only for a short time, owing to the weight of the tumor. We determined upon a consultation, and as we felt the need of a surgical adviser and operator, we sent for Dr. H. F. Campbell, of Augusta, who came with his usual promptness.

There were several very difficult problems for us to solve, upon the right solution of which might hang the fate of both mother and child. 1st. Was she really pregnant, or was this ovarian dropsy? All the symptoms of pregnancy were present, and we could not doubt, though now (April 2d) quickening had ceased for two days, giving us hope that, we would not have to destroy fetal life in our efforts to relieve the mother. 2d. With what was the pregnancy complicated—ascites, ovarian dropsy, or some other improbable and undefinable cause? Without being able to determine clearly and satisfactorily what the complication might be, our course was very apparent, viz: to puncture the membranes and produce miscarriage, particularly, now that

we had every reason to believe that fetal life had ceased. Accordingly, Dr. Campbell proceeded to puncture the membranes, which he found very difficult to accomplish. It was found, soon, that premonitory symptoms of labor were coming on with a gradual dilatation of the *os tincæ*, and we thought best not to interfere too much with the uterus, that we might produce lesions of its internal structure, as it was too high to reach except by an instrument. In conjunction with these manipulations, we separated the membranes and gave wine of ergot freely, and had the gratification of finding, after a night's rest, that our patient was in actual labor the next morning (Tuesday, April 3d.)

By 10 o'clock a fetus was expelled, which gave evidence of having been dead several days. But a new mystery appeared. No water came with it, the abdomen remained as much distended as ever, and on introducing our fingers as high up as possible *in utero*, we discovered a fluctuating sac of water, which we punctured with the stilet, when a stream issued forth that deluged the patient's bed from head to toe, and relieved her almost instantly of the abdominal tension with which she had suffered so much. Another fetus came down and was soon delivered, which was found to have been dead but a short time, to all appearances.

Our patient recovered rapidly, and without any untoward result. No tumor is discoverable in the left side, and the pain and soreness are entirely gone. We suppose that all the morbid symptoms in the case originated in ovaritis, which at first was disposed to take on the form of chronic enlargement, but yielding to the alterative treatment, or the *vis medicatrix naturæ*, subsided, until the gravid uterus rose above the pelvis, and mechanical pressure was made upon the ovaries, the irritation and pain returned, which resulted in effusion and all the other train of symptoms presented in this remarkable case.

The books throw but very little light on such cases; indeed, Drs. Churchill and Ashwell seem to be the only authors in our reading who have detailed cases of the same character. The only one which seems to have fallen under

the notice of Dr. Ashwell, was so near like ours in every important particular, that after reading it we felt well pleased at the course we had marked out in the treatment, and the general pathological views we had taken of the case.

A similar case occurred in this county some years since, in the family of Dr. Green, only the woman (a negress) carried hers to a successful delivery, though every one was astonished at her undue size previous to her accouchment. The Doctor informed us that gallons of amniotic fluid passed from her as in the case of Mrs. C——.

As Dr. Campbell was with us, and took great interest in the case, we hope he will add to our imperfect report anything which may have escaped us, and particularly such cases from other authors as he may find, in his researches in this heretofore almost untrodden path of pathological science.

[We are so well pleased with Dr. Pendleton's excellent report of the above case, that we have concluded not to add here a single remark, even at his own suggestion thus kindly made.

H. F. C.]

ARTICLE XIX.

*An Essay on Bloodletting, read before the Medical Association of the State of Georgia, at their Annual Meeting, held at Rome, April 11th, 1860. By ROBERT SOUTHGATE, A. M., M. D., of Augusta, Ga.**

Motto.—*Nil remedium, nisi tempestivo usu sit.*

MR. PRESIDENT AND GENTLEMEN—I invite your attention to a brief examination of the following question:

The tendency to abandon the practice of general blood-letting, in the treatment of disease: Is it evidence of an advance or retrograde movement in Therapeutics?

This is a question of much interest, and worthy of the thoughtful consideration of every member of the profession.

That medical opinion strongly inclines to give up what

* See also pamphlet published by the author.

has long been regarded as one of our most reliable means of cure, will hardly be questioned; for no very extended observation will convince us, that general bleeding has been abandoned almost, if not altogether, by many practitioners; that by a large majority it is resorted to with great reserve; and that by a very few is it still recognized, as a safe and reliable agent in the treatment of disease.

What has led to this great change of opinion? Is it due to conviction, forced upon us by observation of injurious results from the practice, or are we merely following in the wake of a few leaders, to whose "ex cathedra" decisions the general medical mind is blindly submitting its faith? On so vital a point as the one before us, it is alike due to self-respect, and the interests of humanity, that every medical man should calmly examine the grounds of his belief; for it is a fact, not very creditable to us, that we are under the influence of a strong tendency to adopt views of important points of doctrine and practice, that may be entertained and published by some leading member of the profession, without submitting them to the critical test of reason, or entertaining the question—May not such views, and the practice based upon them, be the convictions of a single mind, swayed by influences, and placed in circumstances far different from those under which we may be called to act?

The history of blood-letting, from the earliest record we have of it to the present time, would be a curious, although not very profitable, subject of study. Its origin may be traced back to a very high antiquity; for the earliest physicians, whose names have come down to us, practiced the operation. Setting aside the fabulous notion recorded by Pliny, that the idea of it was conceived from observing the habits of the hippopotamus, we will not be very far from the truth in supposing, that the benefit following the loss of blood from accidental wounds in persons laboring under internal disease, as well as the salutary effects of nasal, hemorrhoidal and other hemorrhages in certain maladies, arrested the attention of observers, and led to an imitation

of nature. It may be fairly presumed that, when first instituted, the practice was productive of good; otherwise, it would have fallen into disrepute; for the instinct of self-preservation is so strong, that it would have recoiled from a proceeding manifestly detrimental. We find, indeed, that blood-letting, in its various forms, was practiced in all ages, and in all countries; that in the earliest times it had its advocates, and numbered its opponents; that Hippocrates, and the greater part of his disciples, espoused its cause; that Chrysippus and Erasistratus denounced it as injurious; that Celsus, Cælius Aurelianus, and Arctæus of Cappadocia, were its determined friends; that Galen was its advocate, and that in his footsteps followed Paul of Egina, Alexander of Tralles, and Avicenna. Then arose the chemical school, with Van Helmont at its head, who denounced it as injurious; and from the date of the ascendancy of the chemical doctrines to the present time, the record is any thing else but gratifying to a just professional pride.

Personal animosities were engendered and mingled in a contest, which should have been decided by an appeal to the tribunals of experience and reason. We are told that Bosquillon, a Parisian physician of distinction, was so vexed at physicians, in his day, giving up blood-letting, that he practised it largely in almost all diseases, and with a profuseness shocking alike to reason and humanity; that Guy Patin (out of spite, I suppose,) caused his son to be bled twenty-four times during the course of a single pleurisy; and that Hequet, a physician of eminence, fell a victim to copious and repeated venesections—overwhelming evidence, certainly, of the strength of his faith, as well as of the weakness of his intellect. Such is the humiliating record of the past! We could smile at the folly of those who have preceded us, if the visions of the murdered did not rise up to rebuke any other feelings than those of sorrow and regret.

We cannot doubt that, in contrast with those who held these extreme views, there have been in all times and in all ages, physicians who discerned the golden mean, and steadily adhered to the practice of blood-letting, as an

institute of nature, whose precepts they dared not despise.

Descending from those periods, the annals of which are a heterogeneous compound of truth and fable, to more modern times, we have, in the good old common sense school of English medicine, the names of Sydenham, Baillie, Pringle, Ferriar, Heberden, and a host of others, associated with the practice of blood-letting. In our own day, it has the consistent advocacy of the sterling good sense of Watson and Billing, of London; of Graves and Stokes, of the eminently practical Dublin School of Medicine; of the sagacious Trousseau, of France, whose admirable work on Therapeutics seems to be a digest of all the learning of the Past, illumined by all the light of the Present. Hueffland, the Nestor of German medicine, after an experience of fifty years, spoke warmly in its praise; and in our own country, we have the testimony of one who, after a long life of unexampled success in the practice of medicine and surgery, bore the strongest testimony to the safety, value and efficacy of the practice. "It may be," said the distinguished man whose words I quote, "that in some few instances, I have had occasion to think I have carried the use of the lancet too far, but I have to lament very numerous instances in which my timidity has prevented me from using it with sufficient boldness to save my patient from death." Such was the testimony of Philip Syng Physick.—*Clarum et venerabile nomen.*

Until within a few years past, the medical mind seemed enjoying repose in the belief that, in general blood-letting, we possessed a reliable means of cure; when, all of a sudden, its equilibrium was disturbed by the startling announcement, that blood-letting was not only not useful, but positively injurious in the treatment of Pneumonia; the announcement being followed by a formidable array of statistics, which, it was confidently asserted, proved that the percentage of deaths when general blood-letting had been practiced, was largely above that under a purely expectant system of treatment. Now, this announcement must have been sufficiently startling to those who blindly accepted

such statistics, as a foundation upon which could be reared the solid and well-proportioned structure of truth; but I question whether it seriously disturbed the equanimity of any one who had learned to appreciate the full and practical bearing of the simple truth, that every case of disease should, in a practical point of view, be regarded as an individual *sui generis*, to be dealt with, not in obedience to the terms of any pre-established formula, but as common sense should prescribe, after a full, calm, and deliberate estimate of all the relations and bearings that should rightfully influence and determine our mode of procedure. Let us suppose that one hundred cases of Pneumonia were submitted to treatment. Fifty, under the purely expectant system, embracing the withdrawal of all hurtful influences, and the placing of the patients under conditions favorable to recovery; the remaining fifty being indiscriminately subjected to general bleeding, or some method of active medication; might we not very safely predict, that the percentage of recoveries would be in favor of the expectant system? Let us look at this for a few moments, and see if some good reason may not be assigned for the anticipation of such a result. If there is a principle, occupying a more prominent position than any other, in the minds of experienced men of the present day, it is this—that the human system, when attacked by acute disease, institutes a movement in the direction of its own relief; and that the duty of the physician principally consists in watching the movement, aiding and co-operating with it; with this reservation—that as this movement is sometimes boisterous and turbulent, and likely, by its violence, to defeat its end, it requires to be moderated and controlled, whilst at other times, it is so crippled and oppressed, that it demands the interposition of art for its relief.

The general principle is, however, what I have stated it to be. Now, the practice of general bleeding, in each and every case of Pneumonia, seems to be in direct contravention of this principle; and when so indiscriminately employed, must lead to disastrous results, especially in such

cases as are treated in large hospitals, and upon which the statistics are based. Would it not be reasonable to fear, that in many of the cases, the recuperative energies might be lowered to a point at which disease would gain the mastery, and, finally, achieve the victory. We know, moreover, that after a while, points of stagnation take place in the inflamed tissues, and that these points must, by simple mechanical force, lead to the formation of others; and it is more than probable, that general bleeding employed on the eve of the subsidence of the general excitement would promote their formation; and that cupping and blistering would then be adapted to check the progress of the more strictly localized disease. But many cases do recover after general bleeding, even in hospital practice, and some die under the expectant system; unless, therefore, we had all the data that the inductive philosophy requires, for a sound and legitimate deduction, which no statistics have ever yet given, we have no strict logical right to decide for or against either system. Under the guidance of reason and experience, we determine to leave one case almost entirely to nature, whilst in another, the phenomena of oppression are so grave, or the reaction is so intense, that we deem it our duty to interpose, actively, for the relief of our patient.

Whilst, then, we do not think that any safe rule of practice can be deduced from statistics, especially from hospital statistics, as applied to private practice; and whilst we should, for the reason above stated, and a strong faith in the restorative energies of the system, prefer to trust all our cases to the expectant system, rather than subject them indiscriminately to general bleeding, no such alternative is presented to the practitioner. In the independent exercise of his judgment, he can adapt his treatment to each individual case.

And is it not a humiliating reflection that in this favored epoch of man's history, with the volume of nature open before him, with the philosophy of Locke and Bacon to guide him in its interpretation, and with all the experience of the past, as a lamp to his feet, that there should

be distinguished authorities arrayed on each side of this question!

Embarrassing, indeed, is the position of the young practitioner, who has entered upon the duties of his mission, impressed by a due sense of responsibility. Anxious to avail himself of the clearest light to guide him through the storm and darkness, he diligently consults the latest and most approved authorities in practical medicine. For the sake of illustration, we will suppose that they differ as to the value and safety of general blood-letting in Pneumonia. The young physician is impressed by the views of the latest authority, in opposition to the practice. He is summoned to the bedside of a patient; he has diagnosed Pneumonia, and the rational symptoms and physical signs, if he has been instructed in the interpretation of the latter, proclaim the extent and gravity of the case. He is face to face with congestion and inflammation of a vital organ; and remembering a lecture, in which the efficacy of general bleeding was eloquently enforced, he decides upon a resort to the lancet, but his hand is arrested by the force of the distinguished authority he last consulted, and he pursues a different and less decisive course. The patient, we will suppose, after a longer or shorter struggle with the malady, expires. The young medical man now recollects, that another authority of equal distinction, has declared, that in the early stage of severe Pneumonia, blood-letting was imperatively demanded; and the very natural and distressing question presents itself—Might not the result have been different, had I made a decided impression by the use of the lancet, when first called to my patient? Now the case might have terminated in death, if general bleeding had been resorted to, for the result does not necessarily demonstrate the efficacy or inefficacy of the means employed; and if it could, by any conceivable process of reasoning, be proved that the omission of bleeding had turned the scales against the patient's safety, would not the exercise of ordinary charity excuse the young practitioner, who, under a crushing sense of responsibility, had yielded his judgment to an older, and

should be wiser head than his own. Should not the blame rest with those who, in their writings and teachings, dogmatically proclaim that blood-letting is useful, or that it is injurious in Pneumonia, without impressing upon the mind of the pupil, the simple, wholesome, and conservative truth—essential truth in all times, in all ages, and under all circumstances—a truth that constituted the Pole-star, of the medical worthies of former times, “*Nil remedium, nisi tempestivo usu sit.*”

But could many of us now present, apply to our lacerated feelings the same balm, that might give comfort and support to the young physician, under such circumstances. Fifteen, twenty, or twenty-five years have, perhaps, past by, since we commenced the great struggle against disease, suffering and death. We have learned to read the great volume of nature understandingly; to place a respectful but just estimate upon the learned disquisitions of authors and reviewers, and the eloquent lectures of erudite professors. We have had practical illustrations of the value of all our great therapeutic agents—blood-letting, cathartics, emetics, diaphoretics, tonics, stimulants, anodynes, all “*remedia, tempestivo usu.*” We have learned to use them discreetly, considerately and gently, as aids to the struggling system; to control undue excitement, to solicit the return of arrested secretions, to calm and strengthen, and co-operate in the great work of Cure.

We are summoned to the bed-side of a patient; a chill has sounded the alarm of impending mischief; fever has followed; and the cough, pain in the chest, and other symptoms, call our attention to the lungs, as the probable seat of disease. We place our ear to the chest, and the physical signs make the diagnosis sure; for the soft music of respiration is displaced by the crepitating, crackling and hoarse intonations of disease. We have inflammation of a vital organ pleading for relief. How shall we administer the needed succor? It may have happened that the last case of Pneumonia under our care, terminated with the life of the patient, and general bleeding had been one of the

means employed. Shortly after the sad occurrence, we encountered a learned disquisition, in which general bleeding in Pneumonia was declared to be injurious, as shown by the appended table of statistics, vouched for as correct. We decide to abstain from it, and trusting to some other remedy or remedies to subdue the inflammation, our patient, on the ninth or tenth day, dies, as effectually strangled as though a ligature had been cast around his trachea and gradually tightened from day to day, until the last effort at inspiration carried in scarce a thimble-full of air, and the last attempt at expiration was little more than a startling and convulsive gasp. A friend of our late patient calls, to take a last look at his remains and remarks, "how little he is changed;" and indeed, if we should weigh the corpse we would find, perhaps, scarcely an appreciable diminution of its normal and living weight. We open the thorax! and instead of the beautiful and buoyant structures—the matchless mechanism of the Architect Divine—we find a ponderous compound of pulmonary tissues, bloody serum, mucus and lymph! Or if our patient should survive to the middle or end of the third week—the inflammation steadily advancing, hurried on, perhaps, by the brandy toddy, serpentaria and camphor, and beef tea, which the symptoms of prostration with excitement are too often recklessly thought to demand, and the odor of which, as we enter the sick room, afflicts us with such a sickening presentiment of a disastrous issue—we open the thorax! and we find the same beautiful structures converted into a pulpy, softened, and disorganized mass!

Now, if we have attained to that frame of mind which some medical men reach, who have been elevated to a dizzy height by the partiality of their friends, who have magnified every trifling recovery into a wonderful result of skill; a frame of mind that makes them intolerant of the suggestions of others, satisfies them that their diagnosis is infallibly correct, their therapeutics indisputably the best that could be devised, and that when their patients die, they ought to have died; if we have attained to this unphilo-

sophical, this most antiprogressive state of mind, we may not feel any misgivings at the sad event. But if we are humane and reflecting, and most men, justly proud of the triumphs of our art, humbled at times under a sense of our defeats—our pride and our humility proving fresh incentives to greater diligence in our efforts to solve the great problems of disease and cure—might we not feel, that perhaps, we had not acted altogether wisely and well?

Now, we all know that many cases of Pneumonia will recover without blood-letting, or other active treatment; that rest in bed, the removal of all sources of irritation, warm poultices to the chest, mild diaphoretic and demulcent drinks, will, in time, effect a perfect restoration. But if from this we are in danger of arriving at a generalization, false—and if false, fatal—that general blood-letting is never necessary in Pneumonia, is it not our duty to pause and reflect, whether the current with which the medical mind is now drifting will carry it to a safe anchorage; or whether our bark, freighted with such precious interests, is not being wafted towards shoals and rocks, and deceitful quicksands, on which it may experience a disastrous shipwreck?

I have selected Pneumonia to illustrate my subject; because, if I am not greatly mistaken, the apparently formidable statistics to which I have referred, led to the reaction against the remedy, and to the very natural extension of the prejudice against it, to the other inflammatory disorders. For if, in inflammation of organs so eminently vital as the lungs, blood-letting had been proved to be not only not simply useless, but positively disastrous, we must, *a fortiori*, conclude that in inflammation of organs less immediately vital, the remedy must be useless; and if useless, injurious, (for we cannot occupy neutral ground, in reference to such a powerful agent as general blood-letting is admitted to be,) unless there was something peculiar in an inflamed lung that constituted it an exception. And this peculiar something, pathologists have attempted to show; arguing, that the exudation of lymph into the air cells of the lungs—the true seat of Pneumonia—is the very process by which the

inflammation is mechanically extinguished; and as blood-letting arrests this exudation, it is therefore inexpedient in Pneumonia; and the analogy of the beneficial influence of pressure in Erysipelas of the extremities, and of strapping in acute orchitis, has been plausibly brought to bear in support of the idea. I am free to say, that I do not see much force in this reasoning. But admitting that there may be some truth in this mechanical explanation, is it not likewise true, that congestion and inflammation are preliminary to this process? and if, in blood-letting, we have a remedy against congestion and inflammation, will it not be expedient, in the early stage of severe Pneumonia, to prevent this exudation, which might proceed to such extent as to interfere with that due aeration of the blood, upon which the vitality of the great nervous centers of animal and organic life depends.

The retrospect of my professional life brings the remedy before me, as an agent of most beneficent power. Never shall I forget the signal relief I experienced, whilst suffering under an attack of Intermittent Fever—a disease in which a resort to the lancet in these days would be considered little less, I suppose, than the act of a madman. In the autumn of 1844, whilst on duty as a medical officer of the army at Fort Gratiot, at the outlet of Lake Huron, a locality where Intermittents are rife, I became the subject of the disease, in a Quotidian form. The difficulty in my case was an intense gastric irritability, that continued, more or less, during the intermission; and in addition, an agonizing pain in the head was constantly present. In the third paroxysm, my sufferings were so great, that I sent for the only medical gentleman in the vicinity, with the view of having some blood taken from my arm, which I felt persuaded would give me the most prompt relief. The medical man arrived, and my wishes were made known to him. After making the usual examination, he declined acceding to my request. There were present none of those symptoms which were formerly considered indications for the loss of blood. There was no violent throbbing of the Carotid and

Temporal arteries, no full bounding and vigorous pulse at the wrist, no flush of the face, no injected conjunctivæ; no indications that the vis a tergo was driving into the organs a hot current of hyper-vitalized blood! The perverted and ataxic condition of the Ganglionic centers, and their reflected influence upon the cerebro spinal system and nerves of the heart, were antagonistic to such open and undisguised manifestations. After some persuasion, and the assurance that all responsibility should rest with myself, he acceded to my wishes. My arm was tied up, and a vein opened. Slowly and reluctantly did the blood trickle down; soon the stream became freer, then bold and salient; and after about twelve ounces had been abstracted, I felt like a new man; the pain in the head, and the gastric irritability, ceased during the flow, and my convalescence dated from that hour. The medical man was surprised at the result; he anticipated symptoms of sinking; he beheld relief and invigoration.

When I was assigned to the charge of the Military Hospital at the same station, in 1841, I found many of its inmates the subjects of Chronic Irregular Intermittent Fever. Shortly before my arrival, I had perused the masterly paper by Macintosh, on the safety and utility of general bleeding, in the cold stage of that disease. His reasoning was plausible, and as he was a man of high character, I had no right to question his record of facts. I determined to test the practice. The patients presented the peculiar physiognomy of those who have suffered repeated attacks of the disease, and there was, certainly, nothing in their appearance that would have led one to infer that blood-letting would be of advantage. I selected several cases, which had resisted the action of quinine, and showed a pertinacious tendency to return, when the remedy was suspended. In each and every case submitted to the trial, I was gratified by the result; the duration of the cold stage was lessened; the hot stage was milder; and the critical solution by diaphoresis, more complete. The subsequent use of very moderate doses of quinine established the cure. In no instance was

there experienced a sense of weakness; a feeling of relief and invigoration was the immediate result. The moment for closing the orifice in the vein was when the trickling was converted into a jet—the signal that reaction was at hand. Nor will it seem strange, that relief should have followed the operation, when we reflect upon the crippled condition of the nervous and circulatory systems, during the prolonged cold stage of an Intermittent Fever—the beautiful equilibrium of the centripetal and centrifugal forces of the system subverted, only to be restored, after a long, painful and debilitating struggle. Now, doubtless, many who hear me can, in the retrospect of their professional lives, see many instances in which general bleeding was followed by the most prompt relief. If such be the fact, and it be also true that there is an increasing tendency to dispense with this important agent, is it not our duty to examine whether this tendency is in the right direction—the improvement in Therapeutics—the aim and end of all our investigations?

Seeing, then, that blood-letting is, as it were, an institution of nature; that it has received the endorsement of some of the most sagacious minds that have adorned the profession, and that our own experience bears ample testimony to its value, I might leave the subject, as having claims upon our future thoughtful consideration.

I know that a great and wholesome revolution has been effected in the science and art of Medicine; for, to use the language of an elegant scholar, “How tenderly and patiently has Medicine, once so bold, aggressive and alert, learned to wait on Nature, following her hints, assisting her efforts, and relying chiefly on her own healing and recuperative powers.” But revolutions, in their headlong course, are apt to bury, in one common tomb, the evil and false—the beautiful, the good, and the true. And as it is the duty of the political philosopher to study the rise, decline, and fall of empires, so as to derive from them maxims of wisdom, for the benefit of the present and future of the race; so is it the duty of the medical philosopher to study the rise and

fall of systems, to discern the true and the false—to discard the false, to hold fast to the true, and apply it to the relief of the sufferings of our common nature. I verily believe that some of our most valuable therapeutic means are falling into unmerited disrepute; and that the future improvement of Practical Medicine will depend upon a careful review of them all—their powers for good and evil, and their peculiar adaptation, under the cautious guidance of reason, judgment and common sense, to the relief of the various morbid conditions we are called upon to treat.

The diseases to which, until a few years past, general bleeding was considered applicable, are Essential Fevers, in the early stage of which there was vigorous action of the heart and arteries, with symptoms of suffering in any of the great cavities; Eruptive Fevers, when there were the same signals of distress; Malarial Remittent Fevers, of a high grade, when the same signals were hoisted; Idiopathic Inflammation of the Organs, contained within the cranium, thorax and abdomen; Acute Hæmorrhages; Febrile Dropsies; Severe Articular Rheumatism, with high arterial action; certain forms of Apoplectic Seizure; the various disordered manifestations due to a state of Plethora; the annoying and distressing symptoms connected with the Pregnant state; to which might be added, obstinate and unrelenting Colics with Constipation, and in Obstetrical practice, the rigid and unyielding state of the structures, through which the fœtus has to be forced into a state of breathing and independent existence—an extensive field that might be re-surveyed with interest, and, perhaps, profit to us all.

Now, Continued Fevers, classed as Synocha, Synochus, and Typhus (not embracing true Typhoid Fever, which seems to be a disease of more modern origin), were the diseases in which the physicians of other days were such close and faithful observers of nature. Whilst they recognized the great truth, that, with rare exceptions, they could not be suddenly suppressed by remedial means; they did not hesitate to moderate their early violence, by venesection,

cooling aperients, cold drinks, &c., and they had the satisfaction of seeing them terminate by some critical evacuation, on the seventh, ninth, eleventh, fourteenth, or twenty-first days; so rarely beyond the last period, that they were denominated Twenty-one day Fevers.

The principle upon which they acted was, that as all violent actions in the system must be followed by the reaction of prostration; and as the prostration was generally in a direct ratio to the previous excitement, it was alike the dictate of reason and common sense to diminish the excitement, as the surest means of economizing the strength, and enabling the system to effect a critical solution of the disease. I believe the principle upon which they proceeded was a sound one—sound then, sound now, sound in all time to come.

Now, what is the course pursued in many parts of our country (and perhaps some of us have pursued it,) in these Continued Fevers? We administer fifteen, twenty, twenty-five, or thirty grains of quinine in forty-eight hours, with the hope of suppressing the fever; but the fever laughs at us and our quinine. We withdraw it, for we have witnessed no good result. We leave our patient alone for ten or twelve hours, and we find at our next visit just what we might have anticipated—after the withdrawal of such a tonic as quinine—the pulse somewhat more feeble and frequent. Now commences the wine and beef-tea, and after a while the whiskey-toddy system, with perhaps the placebo of cold spongings, and an occasional foot bath. A diarrhœa sets in, and for fear of weakness, and not reflecting whether it may be critical or otherwise, it is promptly checked; and so we go on checking the recurring diarrhœa, diminishing or increasing the quantity of stimulus, occasionally slipping in a little quinine; and the fever, in spite of our treatment, sometimes terminates on the fourteenth or twenty-first day; but frequently continues to the close of the fourth, fifth, sixth, and even the seventh and eighth week; and we congratulate ourselves, that we have carried the patient safely through his long illness, when I verily believe, we have

most miserably thwarted the recuperative tendencies of the system, by our false method. This is strong language, but I have had some experience in these fevers, and must think that we would not have such lingering cases, if a sedative treatment were adopted in the first stage of excitement.

I am now in attendance upon a case, that illustrates the value of sedative treatment, aided by a spontaneous epistaxis in favoring a prompt solution of fever.

I was summoned to see a little girl, five years of age, who had, previous to her attack, enjoyed excellent health. Four days before I saw her, she had experienced chilly sensations, which, after lasting several hours, were succeeded by fever, that had continued with increasing severity, up to the morning of my visit. She was lying supine in bed, unwilling to be disturbed. Her face was flushed, and had the febrile expression; the tongue was white and inclined to dryness; temperature of the surface was elevated; the pulse numbered 130, and gave the finger applied at the wrist a sharp and angry touch; there was frontal headache; a careful examination detected no thoracic or abdominal trouble. I had, certainly, reasonable grounds to diagnose Continued Fever, and cautiously so expressed myself to the mother. I prescribed a solution of sulphate of magnesia with antimonial wine to be administered every second hour, until some decided effect was produced; after which it was to be continued in diminished quantity and with longer intervals. After the administration of the third dose, the medicine was discontinued; gentle emesis had occurred twice; three copious liquid alvine evacuations followed; spontaneous epistaxis took place during the day, commencing with a jet, and trickling away for some time, until it stopped by self limitation. At my evening visit, I found my little patient much better; the flush of the face had disappeared with the frontal headache; the cast of countenance was more natural; the pulse was soft and numbered 120; there was a little moisture, here and there, on the surface. I prescribed a warm foot and arm bath, to be followed by a cup of warm balm tea; gentle diaphoresis and refreshing sleep followed;

at my visit the succeeding morning, the patient was free from fever. The convalescence has been progressing favorably. Now, whether it was a case of continued fever or not, the prompt relief is manifest; and I cannot help thinking it fortunate for my little patient, so far as the duration of her fever is concerned, that I have not become imbued with that great partiality for quinine, in all febrile movements, entertained by my medical friends in Augusta. I have seen cases setting in, in the same manner, and in which quinine had been prescribed with the view of arresting them in their course, linger on for three or four weeks. Now, this case, it is true, does not bear directly upon the point under consideration; but if there is an arterial sedative, scarcely second to general bleeding, it is the antimonial saline solution. I took the hint from Billing, when I was a very young practitioner, and have profited by it, on many occasions, to my own great satisfaction, and the speedy and safe reduction of fever and inflammation.

From the admirable work of Wardrop on Blood-letting, I draw the following case: In referring to the objections to the use of bleeding in Fever, and the doctrine upon which they were founded, he says: "I had an opportunity of witnessing the fallacy of this doctrine, in the case of a youth who was attacked with fever, and whom I accidentally saw, just when he was brought from school, at the commencement of the disease. He complained of a violent headache, had a flushed countenance, a typhoid tongue, a hot and dry skin, and a rapid pulse. I immediately bled him at the arm, when in the supine posture, until he fainted; ordering him a dose of James' powder every four hours, alternately with a purgative. The physician who attended the family was afterwards sent for, and in a few hours he visited the patient. When he heard the history of the case, and observed the character of the tongue, he expressed his decided opinion that the depletive system of treatment would be injurious; that the patient had all the symptoms of Typhus Fever, which would endure twenty-one days; and that it would be followed by such a train of symptoms of exhaus-

tion and debility that, in place of blood-letting, the very opposite system of treatment ought to have been pursued. Contrary, however, to this prediction, the bleeding completely and permanently relieved the head; the skin and alimentary canal were powerfully acted upon by the antimony and calomel, and so early as the ninth day, the fever ceased." Mr. Wardrop was an eminent surgeon and general practitioner, in London. I quote the case to show that there is, after all, not such terrible danger from depleting treatment in continued fever as, in these days, we seem inclined to believe. It was in these fevers that the application of the doctrines of Brown, of Edinburgh, proved so disastrous. He divided all diseases into Sthenic and Asthenic; the latter comprising cases wherein his uniform, indivisible property of excitability, was either exhausted or morbidly increased. These fevers were classed as Asthenic, in which the excitability was exhausted and the indication of cure was, to rouse the excitability by stimulants. Rasori, and Italian physician, was completely captivated by the apparent simplicity of the doctrine, and introduced it into Italy. The occurrence of a Petechial Fever at Genoa, gave him an opportunity of practically testing its value. The stimulant treatment produced a frightful mortality. Seeing and acknowledging his error, he faced about, and commenced a contra-stimulant treatment, by which the mortality was vastly diminished. From that time, the Brunonian theory fell into disrepute; and it is now regarded as the most pernicious that had ever been invented, for the promotion of malicious ends and selfish purposes. Brown, you know, was at first the friend, but subsequently, the most inveterate enemy, of Cullen. In the latter were centered (if the memory of my early reading be not at fault) all the qualifications of the popular teacher. His personal appearance was eminently prepossessing; his countenance the blended expression of benevolence, sprightliness and intelligence; his voice was musical; his elocution fluent; his gesture graceful; his rhetoric a felicitous combination of the simple and ornate; and withal, he had achieved an enviable reputation for pro-

fessional sagacity and skill. No wonder that crowds of students gathered from all parts of the world to listen to his eloquence! These shining qualities, which would have strengthened the friendship of an ingenuous mind, proved too much for the poor, miserable, selfish human nature of Brown. He had gained some *eclat* by a successful assault upon a weak point of Cullen's Theory of Fever (what Theory of Fever is there that does not present a weak and assailable point?) and rendered arrogant by success, he proclaimed the dogma he associated with his name. It addressed itself to a weak point in the student's mind—the desire to obtain, by a short and easy process, to that knowledge which can only be acquired by faithful and laborious investigation. His success was great, but ephemeral. Posterity has rendered a righteous verdict. Brown is now only remembered as an unscrupulous theorist; while Cullen still shines with a pure and steady light, in the firmament of medical literature and science.

To Broussais, among others, we owe a debt of gratitude, for having stemmed the burning current of the Brunonian doctrines, and proved that it was not from debility we had so much to fear, as from the exhausting and disorganizing power of fever and inflammation. Broussais himself wandered far beyond the limits of truth and safety; but his treatise on the "Chronic Phlegmasiæ," is an enduring monument of his intellectual power. And as we slake our thirst in the refreshing stream that flows through its pages, we experience a sentiment of regret, that one who gave such early promise of being a successor, worthy of the immortal author of the "General Anatomy of the Tissues," and an architect equal to the completion of the great work he had designed, should have dwindled into a visionary, one-idea enthusiast, whose common sense had, long before he was called to pay the great debt of nature, been consumed by the fires the enthusiasm of his genius had kindled. Believing, as I do, in a substratum of essential unity in all these fevers, and that their modifications depend upon epidemic and other influences, I think the same treatment is

called for, but not in the same order. Sometimes the nervous sedation is so great, that early stimulation is necessary to maintain the action of the heart and arteries; whilst the presence of congestion in some of the organs may demand, at the same moment, depletion to relieve it; for, in the language of Macintosh, "it is not inconsistent with good pathology to bleed and stimulate at the same time." Then, again, the reaction is so violent in the early stage that we have to moderate it, in order to avoid secondary prostration; the subsequent treatment being either expectant, supporting, anodyne, or revulsive—according to the indications that may present themselves during their course; always bearing in mind their tendency to terminate on certain days, dated from the access of chilly sensations, which, whatever may have been the duration of the preliminary feelings of malaise, seem to indicate the day on which nature commences the movement in the direction of her own relief and restoration. If the twenty-first day should, unfortunately have passed, without the manifestation of those signals, which indicate a favorable crisis, all other considerations must be secondary to the great principle of sustaining the forces of the system; and I cannot too strongly commend to the young practitioner, the lectures on Continued Fever, by Dr. Todd, of London, in which the "*nihil desperandum*" practice is advocated, on the grounds of the most admirable and gratifying clinical results.

I conclude what I have to say upon Continued Fevers, with a quotation from Sydenham, and no one will question his thorough acquaintance with them. After stating that the invention of the term "Malignity," has been far more destructive to mankind than gunpowder, he goes on to say (speaking of Congestive Typhus): "But if it be inferred that there is some malignity in the case, not only from the purple spots, but also from finding the symptoms of Fever milder sometimes than should seem agreeable to its nature, whilst, notwithstanding, the patient is more debilitated than could be expected for the time; I answer, that all these symptoms only proceed from nature being, in a manner,

oppressed and overcome by the first attack in the disease, so as not to be able to raise regular symptoms, adequate to the violence of the fever—all appearances being quite irregular. From the animal economy being disordered, and in a manner destroyed, the fever is thereby depressed, which in the true natural order, generally rises high. I remember to have met with an instance of this kind, several years ago, in a young man I then attended; for though he seemed, in a manner, expiring, the outward parts felt so cool that I could not persuade the attendants he had a fever, which could not disengage and show itself clearly, because the vessels were so full as to obstruct the motion of the blood. However, I said they would soon see the fever rise high enough upon bleeding him. Accordingly, after taking away a large quantity of blood, as violent a fever appeared as I ever met with, and did not go off till bleeding had been used three or four times.”

Upon the subject of Malarial Remittent Fever I shall say but little. Satisfied as I am of the value and safety of general bleeding in the cold stage of Intermittents, I would not, even if my position were such as to make my recommendations worthy of notice, have any one adopt the practice. Should it ever so happen that I should suffer from an attack in the manner recorded in the first part of this paper, I should insist on being bled—the entire responsibility being cheerfully assumed by myself. I attended a gentleman last summer, similarly, but not so severely, affected. Remembering my own case, I was desperately tempted to open a vein; for all the usual anti-emetic routine had failed. Fortunately, Nature stepped in to his aid and my relief. During a spell of vomiting, seemingly violent enough to have torn all the abdominal viscera from their attachments, about two tablespoons-full of red blood came up, with some mucus from the stomach; I had no further trouble with that symptom. Now, I feel morally certain, that had I opened a vein, and thereby diminished the centripetal tendency, by affording a centrifugal outlet, I would have given my patient prompt relief. But if the case had, afterwards,

assumed an unfavorable aspect, a false logic would have attributed it to the bleeding; and I am sure you will agree with me, that a centrifugal movement on my part would have been not simply expedient, but absolutely necessary.

In the formidable Remittant Fevers I encountered, during my service, on the Red River in the Choctaw Nation West, I resorted to general bleeding, to subdue the violent excitement of the circulating forces, and followed it by other sedative treatment, until the remission was so decided, that I deemed the interposition of quinine expedient. I was not, at that time, acquainted with what may be denominated the suppressing power of large doses of the remedy; and although the cure was not, apparently, so prompt, it was equally satisfactory. Sometimes I found, that under the use of moderate doses of quinine, the tongue would become dry, and some tendency to delirium be manifested. I have, under such circumstances, withdrawn the quinine, recurred to a sedative treatment, and, after a while, found that its use would be followed by its admirable anti-periodic power. I know that the empirical treatment of these fevers has almost entirely superseded the rational system; but sometimes it will fail, and then we have to revert to first principles. Already is there a commencing reaction against the empirical use of quinine. Thinking men, in and out of the profession, begin to ask themselves—May it be possible that the marked increase of severe neuralgias, intractable nervous headaches and dyspepsias, may be due to its vast consumption? It is a weapon, wielded by every overseer of a plantation, and every head of a family with nearly equal skill with ourselves. Verily, it is high time for the profession to look to it, lest it fall into unmerited disrepute.

[TO BE CONTINUED.]

Osteo-Plastic Operations. By B. LANGENBECK, Professor of Surgery in the University of Berlin. Translated and communicated by WILLIAM F. HOLCOMB, M. D.

Osteo-Plastic operations are those which have for their purpose the reparation of defects in bone, or the performing of resection in such a manner that the removed portion may be supplied by a *new deposit* of osseous matter.

The reparation of defects in bone may be effected by various operative methods.

I. By bringing together and uniting the borders or edges of the fissures in bone.

The closure of fissures in the hard palate is attempted in this manner:

II. By transplanting a neighboring portion of bone to supply the defect.

The moving and *engrafting* of the ossa intermaxillaria into the fissure of the processus alveolaris, in double-cleft palate, as accomplished according to Blandin's method, by *cutting through the vomer*; Gensoul's plan of breaking up the union of the intermaxillary bones with the vomer, and my operation of dividing the *cartilago-triangularis*, illustrate this method. Pirogoff's proposed plan of transplanting the calcaneus to the sawed surface of the tibia, after a previous exarticulation of the foot and the consolidation of both these bones, belongs also to this class.

III. The reunion of a fragment of the detached bone.

The first attempts of this kind were made by Percy, who endeavored to supply defects, occasioned by gun-shot wounds in the lower extremities, by engrafting portions of the tibia of an ox. These experiments failed. Von Walther was more fortunate in replacing a piece of cranial bone, trepanned from a man 36 years of age, as the greatest portion of the bony disk healed, while only a small portion exfoliated. The attempt made later by B. Heine, to reunite an exsected portion of the rib of a dog, terminated just as unfortunately as the experiments of Percy; and there is reason to doubt the correctness of Von Walther's observations, since portions of bone, which are *set into* or engrafted into others, suffer *erosion* from long contact with the normal fluids from the bone or from pus, very similar to the destruction in caries or exfoliation. In many cases where I have used ivory pins for the purpose of uniting pseudo-arthroses, after three weeks' use, even these were found to have sustained a considerable loss of substance. The end which had

been in the bone was rough, as if eroded by caries, and had lost even a third of its circumference. In the case related by Von Walther, the portion of bone which was removed by the trepan, was replaced and allowed to remain three months, may have become reduced in size by a similar process. This subject has lately acquired a new, though only a physiological interest, through the researches of Ollier. (See the work "On the Artificial Production of Bone by Means of Transplantation of the Periosteum, and by Osseous Grafts. By L. Ollier. 1859.) This author (*v.* page 13) engrafted the bones of animals upon those of the same species, (rabbits,) sometimes under the skin of the axilla, and sometimes in cavities formed by the extirpation of a corresponding bone, (*os metatarsi*;) the transplanted bones continued to live and grow in their new home. On account of the greater vulnerability of the human species, and its slight recuperative power, as well as the impossibility of employing corresponding material, it is impossible to make these experiments in operative surgery. But that it is possible, however, to effect reunion in a bone which has been completely separated from its *bony* connections, provided it remains united to the parent bone by the periosteum, is shown by the following case:

CASE—*Naso-pharyngeal Polypi; Resection of the Processus Nasalis and the Right Os Nasalis; Extirpation of the Polypi; Replacing and Reunion of the resected Bones.*

A healthy boy, of 18 years, was received into the clinic, in whom the space behind the soft palate was completely filled by two fibrous polypi. The smaller tumor was attached to the vicinity of the *spina nasalis posterior*; and the larger, near the right *tuba eustachii*; and from it, a prolongation extended into the right nasal cavity, by which it was completely closed. Respiration was difficult, and considerable hæmorrhage had taken place. As it appeared impossible to remove the tumors either through the nasal cavity, or by division of the soft palate and resection of the palate bones through the mouth, I decided to resect the *processus nasalis* of the superior maxilla, as I had done before in similar cases. (*Vide* Thico. Billroth on Resection of the "Processus Nasalis." *Deutsche Klinik*. 1853.) In the former cases I had only resected and removed the *processus nasalis* of the superior maxilla. But as, in this case, the bone referred to was not driven forward, I had reason to fear the passage to the pharynx made by its removal would not be wide enough to enable me to reach the tumor.

As the *permanent* resection of the right nasal bone would leave a proportionate disfiguration, I decided on trying to replace the resected bone. The operation was performed Nov. 3d, 1859. A nearly straight incision was made from the *glabella*, passing downward to the right over the *processus nasalis*, running to the *ala nasi*. The *skin*, carefully dissected, was so far separated that the *processus nasalis* of the superior maxilla, and the whole of the right *os nasale*, were brought into view, and then the upper border of the right *ala nasi* was detached from its corresponding connections with the above mentioned bones. By means of sharp bone forceps, an incision was made from the nasal cartilage along the *sutura nasalis* to its union with the *os frontis*; and by a second incision, extending into the *sinus maxillaris*, the base of the *processus nasalis* was divided. This incision terminated where the angle of the superior maxilla, below the orbit, joins the *os lachrymale*. An elevator, introduced into the nasal cavity, was used to raise both bones from their bed, and at the same time the nasal bone separated at its suture with the *os frontis*, so that the whole, adhering to the periosteum, could be thrown up and held on the forehead. The polypi were then removed. After the bleeding was checked, the BONY FLAP was brought to its former place, and the external wound was closed by silver sutures, (which were *tied* like a thread,) and the nasal cavity carefully plugged with *charpie*. These resected bones were completely detached from the superior maxilla, frontal and left nasal bones, but were held together by periosteum and mucous membrane, and were also joined to the *ossa frontis* and nasal cavity by a strip, about an inch wide, of periosteum and mucous membrane. For a few days after the operation, there was considerable swelling of the soft parts covering the wounded bones, which had, however, nearly disappeared on the 18th of November, by the application of cold water compresses. Cicatrization of the soft parts complete; no secretion from the nasal cavity; and the mucous membrane, as far as can be felt by the finger, appears to be healed. Respiration by the nose is entirely free. Pressure of the finger on the resected bones causes no pain. Between the nasal process and the superior maxilla there exists a little tumefaction, but none at the nasal suture. Patient left the bed.

IV.—“*Preservation of the periosteum and the surrounding soft parts.*”

All surgeons who have resected bones, acknowledge that,

in order to have the bone reproduced, it is of the highest importance that the surrounding periosteum be preserved; and all experience demonstrates that the removed portion of bone will be more or less perfectly reproduced in proportion as the periosteum is preserved. As long ago as 1843, I extirpated the entire *ulna*, together with the carious superior extremity, which was much hypertrophied from a chronic traumatic inflammation of long standing. In this case, the *entire* periosteum was preserved. A new ulna was deposited, with its perfectly traceable processes. The movement of the elbow-joint was complete, and the new, but more flattened, olecranon could be felt through the soft parts. In the year 1846, I brought this young man before the meeting of the German Scientific Congress. (See Official Report of the 24th Congress of German Naturalists and Physicians, in Kiel, 1846.) Since that period, a very great number of resections and extirpations of bone have convinced me that, by preserving the periosteum, a perfect reformation, (osteo-genesis,) or reproduction of bone, may be expected with certainty, unless the bone is suffering from *discrasia*. This opinion, formed before 1848, explains why, in the Schleswig-Holstein war, I undertook the resection of the fragments of broken *diaphyses* of bones, fractured by gun-shot wounds—an opinion for which I have been greatly blamed, but which, I am thoroughly convinced, will one day take its place in military surgery. In the resections which occur in times of peace, it is very easy to preserve the periosteum which has become thickened, (as in inflamed bones;) impossible, however, when we have to exsect long bones which are attacked by tumors. The preservation of the periosteum, in the resection of joints, is inadmissible, (so far as it *can* be preserved,) in case we wish to obtain a movable joint. These operations, according to our former ideas, offer no inducements for us to try to preserve the normal, *thin* periosteum. Every operation which *maims* the patient is a “*testimonium paupertatis*” for the surgeon.

This reflection always forced itself upon me at each one of the numerous resections of the upper jaw which I have performed, and, nevertheless, (I am ashamed to confess it,) the idea never occurred to me that it might be possible to bring this operation directly into the field of conservative surgery, by detaching the periosteum from the exsected bones and leaving it in connection with the adhering soft

parts. The complete extirpation of the superior maxilla, or of half of it, not only deforms the face in a sad manner, but leaves behind a far worse result as regards articulation and deglutition, because the partition between the mouth and nasal cavity falls away. The conservation of this partition I consider as *certainly secured*, if we do not remove the *involutum palati duri*, but preserve it, detaching it with the periosteum from the hard palate. I even regard it as possible to preserve the periosteum of the facial and orbital surfaces of the superior maxilla, and thus, perhaps, render the disfigurement less noticeable. It is unnecessary to say, however, that when extirpation is performed on account of *cancer*, this is impossible. But this operation is practicable in the majority of *osteosarcomatous, fibrous, enchondromatous* and *myeloid* growths of the superior maxillary. The detaching of the periosteum from the superior maxillary bones, the surface of which is so irregular, is difficult and troublesome, and thus additional labor in extirpation will detract considerably from the precision and rapidity of the operation. Further experience will show which incision (through the soft parts) will render the detaching of the periosteum the most convenient. In any case, I would commence the most difficult part of the operation by first making an incision along the lower and outer margin of the gums, and then, by means of a *denuding* instrument, would detach the gum with the periosteum from the bone; then divide the gums along the inner surface of the alveolar process as far as the soft palate, and separate it, *with the periosteum*, from the roof of the mouth. Then the incision of the external soft parts, which should be separated from the bone with the periosteum, should follow. The periosteum of the orbit should also be most carefully preserved; and lastly, the *bones* can be divided in the usual manner. I would finally join the gums and the periosteum of the facial surface to the border of the detached *involutum palati duri* by means of sutures. The cases in which I have operated in this manner are yet too recent to admit of an opinion as regards the reproduction of bone; nevertheless, I may be allowed to communicate them.

FIRST CASE.—*A large Enchondroma on the under surface of the Palatum Durum—Removal of the Tumor—Preservation of the Bone and the Involutum Palati Duri—Healed by first Intention.*

W., 27 years of age, of healthy appearance, and, excepting having contracted a primary syphilitic affection five

years ago, said he was never sick; in 1857, observed a swelling, of the size of a pea, in the left half of the hard palate, which caused no pain. At first, this increased very slowly; but after a while, and particularly since the fall of that year, it grew very rapidly, softened in several places, and ulcerated near the teeth of the left side. The tumor occupied no longer a small surface, but spread over the entire *palatum durum*, and pressed everywhere upon the fine, sound teeth of the superior maxilla, and when the jaw was closed it nearly filled up the mouth; it also pushed the soft palate posteriorly towards the basilar portion of the *os occipitis*. The swelling, which was firm, hard, uneven, and free from pain, was covered by the *involucrum palati duri*, which appeared healthy until near the margin of the alveoli of the left side, where the ulceration existed, through which the probe could be introduced into the substance of the tumor. The probe, and also the acupuncture needle, when passed into the swelling as far as possible, encountered everywhere osseous matter scattered throughout the semi-solid mass.

According to the patient, many small pieces of bone had been thrown off. Whether these belonged to the *palatum durum*, or whether they were ossified portions of the tumor, which had been regarded as enchondromatous, could not be decided with certainty. The entire facial surface of the superior maxilla appeared unchanged, except a small bony tumor the size of a cherry, which was situated on the outside of the alveolar processes above the first molar of the left side. The voice was gone: the articulation indistinct; the respiration was difficult when the mouth was closed; the nasal passages were, nevertheless, perfectly free. On examination with the finger, *per nasum*, the upper surface of the *palati duri* was found to be smooth, and of normal resistance. But in the left nostril, the *inferior concha* felt rough, and it appeared as if there was a communication between the tumor and the bottom of the nasal cavity; as formerly, by pressure on the tumor in the mouth, blood flowed from the left nostril.

According to the first impression which the disease made upon many physicians, (and on myself also,) who examined the patient, we were led to regard the resection of the left half of the *superior maxilla* and the entire *palatum durum*, as unavoidable; and the young man had decided to have the operation performed in the Clinic, but the sound and firm teeth, as well as the normal condition of the nasal

cavity, warranted (after repeated examinations) the hope that such disfiguration might be avoided. The operation was performed Nov. 15, 1859. A firm incision along the inner margin of the teeth of the left superior maxilla divided the *involucrum palati duri*, together with the *periosteum*, which were now loosened partly by means of the raspatory, and partly with the knife.

This part of the operation was very difficult in the vicinity of the ulcerated opening, but became easier in proportion as I advanced posteriorly, and succeeded so completely that both membranes terminating in the soft palate hung down like a flap of skin, and the entire swelling was brought into view. The periosteal surface of this flap was smooth throughout, excepting only in the vicinity of the ulceration, where some fragments of the tumor remained, which were carefully removed. The tumor itself was now (by means of a sharp chisel) separated from the *palatum durum*. Some isolated inequalities of the bony palate (which appeared entirely free from disease) were then removed, and I replaced the flap directly against the bony surface, and fastened it to the gums by a firm suture. A moistened sponge was inserted into the mouth, and held in place against the palate on the tongue. The tumor appeared to be purely enchondromatous, with an abundance of bony scales scattered through it. The whole wound healed by first intention, without the occurrence of the least accident. The flap adhered firmly and smoothly to the bony palate, except at two points in the centre, where it had not united to the bone, without, however, any suppuration having occurred. If a superficial exfoliation should follow this operation, requiring removal, we have the proof that it is possible, even in the resection of the superior maxilla, to preserve the periosteum and *involucrum palati*, and reunite them to the gums, as was done in this case.

SECOND CASE.—*Exostosis of the Processus Alveolaris—Resection of the same, with the preservation of the Gums, Involucrum Palati Duri, and Periosteum.*

H. W., 7½ years old, a boy of very anæmic appearance, was brought to be operated on in the Clinic Nov. 14th, 1859. The enlargement of the *processus alveolaris*, of three years' growth, extended from the gap occasioned by the removal of the upper posterior molar of the right side, to the second incisor of the left side, and extended outward towards the right *ala nasi*. The tumor was about the size of an English walnut, and projected equally inward (towards

the hard palate) and outward, so that the upper lip and ala nasi appeared slightly pushed forward. The tumor is hard as bone, painless, except on firm *pressure*, when the pain is so great as to prevent a faithful examination. It was diagnosed as hypertrophy of the medullary substance of the bone.

OPERATION.—An incision was made through the gum, near the *processus alveolaris*, from the superior posterior right molar to the second superior incisor of the left side, which had been previously extracted. A similar incision was made on the inner margin of the *processus alveolaris*, through the *involucrum palati duri*. The integuments of the tumor, together with the periosteum, were detached without serious difficulty, by means of a raspatory. The bone was then cut out with bone nippers, in a triangular form, the base looking downward. The second incision crushed the thin plates of the alveolar processes. At this juncture a small, smooth bony substance, about the size and form of a musket-ball, sprang out of the opening.* The soft coverings of the alveolar processes were now brought into place, and the edges of the wound exactly joined by a suture. During the first days following the operation only a slight swelling was observable, and the immediate healing of the wound seemed certain. On the fourth day, while the patient was feeling perfectly well, there appeared (in consequence, probably, of some mental agitation,) an unimportant arterial hæmorrhage from the wound. The bleeding ceased after removing the sutures, and syringing the wound with cold water. It returned, however, the following day, and was arrested by the application of a tampon of tannin. On November 21st it reappeared; small pellets of lint, wet in tinct. ferri sesquichloridi, were pushed into the cavity, and effectually checked the hæmorrhage. Previous to the first bleeding, the edges of the gums and of the *involucrum palati duri* came so closely together that the defect in the bone was completely covered; only the teeth appeared to be wanting. Notwithstanding the union was destroyed by the hæmorrhage, yet I hope to be able to repair the defect in the bone at some future period. Since non-malignant tumors of the

* This "small, smooth bony substance" which the reporter seems to fail to recognize, was unquestionably a *young tooth* forced out by his operation, from its bed under the alveolar process of the child 7 1-2 years old, upon which he was operating. The age of the child favors this supposition, but more strongly still, the fact that we have ourselves seen exactly the same thing in operations upon the jaws of children of this age, and were convinced at the time of the true nature of the object.

alveolar process of the superior and inferior maxillary bones very often occur, and as, until now, the soft parts covering them have always been removed *with the tumors*, therefore I regard this sub-periosteal resection, which may be resorted to in the majority of these cases, as a real progress in this operation.

On November 15th, 1859, this case prompted me to try to detach the periosteum, and also the *involucrum palati duri*, in the total extirpation of the right superior maxilla of a boy, 14 years of age. The attempt failed, the mouth and pharynx being nearly filled by this fibrous tumor of the superior maxilla, which had been previously, and for a long time, treated by caustics, in the hope of destroying it. This cauterization was carried on with great energy, and by means of some caustic unknown to me. At the time the boy was received into the Clinic, on that part of the tumor which protruded from beneath the upper lip there was still a suppurating surface, and the *involucrum palati duri* appeared to be degenerated into an indurated, granulated mass. The soft parts immediately covering the *superior maxilla* had become so friable, in consequence of the long-continued suppuration, that they crumbled into pieces as I attempted to detach them from the bones. The covering of the *palatum durum* and the gums, together with the periosteum, should have been *detached* from the bones, but I only succeeded in *detaching* a large portion which covered the facial surface of the bone. As regards the reproduction of the bone in this case, I shall report at a future period.

V.—*Transplantation of the Periosteum upon Defects in bone.*

The experiments of Ollier upon animals (rabbits) have greatly enlightened us in regard to the *power of the periosteum in the reproduction of bone*. He separated flaps of periosteum from the tibia, in such a manner that they remained attached to the bone only by a small strip, and inserted the free end between the muscles of the limb. After a comparatively short time, an *exostosis* had sprung from the flap thus transplanted, the growth of which did not cease, even when, a few days after the transplantation, the strip connecting it to the parent bone was divided. So active was the *independent power* in the periosteum of *forming bone*, that when flaps of it were entirely detached from the tibia, and inserted into the axilla of the same animal, or of another of the same species, it continued to produce bone. To what extent these observations may be applicable in operative surgery, experience must determinè. *A priori*,

we should expect that *human periosteum* will perform its functions as well, when it can be transplanted under as favorable circumstances, as in the case of Ollier; that is, if we can convey to the living tissues detached periosteum, before it has lost its temperature and natural vitality, and insure immediate reunion of the wound. My first experiment was made by transplanting the *pericranium* (from the os frontis) to the *nose*, to reproduce the *ossa nasalia*, which had been completely destroyed by disease. Notwithstanding it was evident to me that this experiment, carried on as circumstances required it to be, would be regarded as *unphysiological*, yet that could not deter me from making it, since no unfortunate result could occur to the patient. I can form no opinion as to the termination, yet I do not hesitate to communicate at this time the principal features of the operation, at the same time, however, calling attention to the unfavorable circumstances under which it was necessarily performed.

CASE.—Mrs. L., 40 years of age, was received into the Clinic at the commencement of the present session (1859.) More than two years ago an *ozæna* developed itself, which led, on the one hand, to a perforation of the hard palate; and, on the other, to an entire loss of the bones of the nose, *conchæ* and *septum narium*. In consequence of this destruction, the bridge of the nose was completely sunken, and the external uninjured soft parts of the nose were drawn back against the nasal processes of the superior maxilla. Notwithstanding the decided denial of the patient that she had had a primary affection, yet the uneven surface of the cranium, and the means employed before her admission into the Clinic, authorized the conclusion that the destruction of the bones was caused by *syphilis*. A purulent secretion from the mucous membrane of the fauces was arrested by four weeks' treatment with the iodide of potassium. I wished to defer the operation until spring, but was obliged to yield to the pressing solicitations of my patient, and the operation was performed Nov. 17, 1859. The soft parts of the nose were divided by a semicircular or U incision, (or rather in the form of a horse-shoe,) extending from the *processus nasalis* of the superior maxilla over the nasal cartilage, from one *ala nasi* to the other, opening completely into the nasal cavity—separating the lower from the upper portion. The point of the nose was then drawn downward and forward, in such a manner that the *tip* nearly touched the lip. Into the wound, thus made,

a similarly shaped flap from the forehead was transplanted, whose pedicle or nourishing point was near the inner corner of the right eye, the borders of which were united to the edges of the nasal wound by silver sutures. When I formed the flap from the forehead, I cut, not only through the *skin*, but through the *PERICRANIUM* to the bone, and the whole together was then separated from the *os frontis*, by means of a raspatory. This operation differed from others which I have performed for repairing defects of the nose, only in the fact that the *periosteum* was detached with the *skin*, and formed the *base* of the flap which was transplanted into the space where the nasal bones were wanting. Afterwards, the edges of the wound in the forehead were brought together as much as possible by two sutures, the denuded portion of the *os frontis* covered with lint, the nasal cavity filled with charpie, and the nose covered with a cold-water compress. I will only state, concerning the subsequent history of the case, that to-day, (Nov. 22,) five days after the operation, the *turgescence* and *swelling* of the *rose-colored* flap are much more marked than I have observed in my former cases. The edges of the wound are perfectly healed at nearly all points, only here and there a superficial suppuration. The defect in this operation is, according to my idea, that the periosteal surface of the flap, twisted to cover the opening in the nose, will be in constant contact with the current of air from the nostrils, and as a natural result, must suppurate and granulate. Whether the pericranium remains capable of producing bone under these conditions, seems very doubtful. The denuding of the *os frontis*, and the possible superficial exfoliation of the same, would hardly be thought of any account, if the design of the operation is thereby accomplished. In cases of complete destruction of the nose, the chances of this operation would be far more favorable. We could cut the skin (surrounding the nasal defect) to the bone, loosen it with the periosteum, and twist it over so that the epidermis would be turned towards the nasal cavity, which would leave the periosteal surface looking upward. Upon this surface, for a basis, a flap of skin and periosteum could be transplanted from the forehead, and in this manner the *pericranium* of the frontal flap would lie on the *periosteum* of the facial flap; that is, two periosteal surfaces would be together, and thus render the chances for bony deposit much more favorable. I have frequently, when supplying defects in the nose by frontal flaps, used the surrounding skin in the manner just cited, (but without

the periosteum,) to form a lining for the other flaps, particularly, as in this manner I prevented the adhering of the nasal surfaces, which so easily occurs in these operations.

(APPENDIX.)

BERLIN, January 31st, 1860.

Having seen the operations referred to in this paper, and observed the patients, I am able to give testimony in regard to them. The young man from whom the fibrous polypi were removed from the posterior nares, *via* an opening made by the resection of the right nasal bone and the processus nasalis of the right superior maxilla, left the Clinic perfectly healed. No exfoliation occurred, and only for a few days was there a discharge near the lachrymal sac. The bony union was complete and firm, when I last saw it, about a fortnight since. No irregularity of the bone or mucous membrane could be felt in the nares.

In case 1st, under division 4th, (enchondroma of the under surface of the palatum durum,) there was a most favorable result. The gums and involucrem palati duri healed to the bone, and no exfoliation took place. The cure is complete.

The boy from whom was resected the processus alveolaris went directly to the country, and died (as was communicated by letter) one week after the operation, from peritonitis. No post-mortem was made.

In case 1st, division 5th, in which there was a *transplantation* of the *pericranium*, to supply defect in the nose, a most satisfactory result has followed. There was complete union by first intention. There was no morbid secretion from the under (pericranial) surface of the flap, which was greatly feared would be troublesome; but this surface seemed to take on the character of mucous membrane. The apprehended exfoliation of the os frontis did not take place, free granulations having quickly sprung directly from the bone, so that now only a small spot remains uncovered by new skin. In fact, Prof. Langenbeck says it has cicatrized as soon as in the cases where the pericranium was left. The nose feels firm, and has a regular form. A small portion of the flap (which was removed in order to raise the nose up a little) was examined under the microscope, and found to contain an abundance of osseous and cartilaginous cells. Several other osteo-plastic operations have been performed since the above paper was written, the history of which I will endeavor to communicate at a later period. W. F. H.

American Medical Monthly.

A Series of three Lectures on Rickets, delivered at the Hospital for Sick Children, in December, 1859, and January, 1860. By WM. JENNER, M. D., Physician to University College Hospital, and to the Hospital for Sick Children.

LECTURE I.

Three Striking Peculiarities of Infant Life, viz: The Sensitiveness of the Nervous System; the Unity of Organic Disease; the Frequency of Diathetic Disease—The Four great Diathetic Diseases of early Childhood, viz: Rickets, Tuberculosis, Scrofulosis, Syphilis—The Grounds for their Separation—Rickets the most common and the most fatal of the Diseases which exclusively or chiefly affect Children—Rickets a General Disease—Enumeration of the most common and striking Anatomical Lesions in Rickets—The Anatomical Lesions of the Bones and the Deformities that result considered at length 1. Enlargement of the Ends of the Long Bones—Its Anatomical Causes—2. Softening of the Bones—Chemical Constitution of the Softened Bones—3. Thickening of the Flat Bones; Its Anatomical Cause—4. Deformities following on Softening of the Bones—Curvature of Spine—Differences before and after Walking—Liable to be confounded with Angular Curvature—Deformities of Femur, Tibia, Ulna, and Radius, Humerus and Clavicles, the Result of Pressure and not of Muscular Action—Deformity of the Thorax, the Result of Atmospheric Pressure—Mechanism of its Production.

GENTLEMEN—If you have ever conversed with several persons who have visited together a spot celebrated for its beauty, you must have been astonished at the different impressions each conveys to you of the most striking character of the scene. One dwells on the general beauty of the landscape, one on the extent of the prospect, one on the height of the mountains, one on the richness of the valleys. Those only agree in their description who have seen everything through the guide-book. So is it with those who look at disease. Each may see the whole of what is before him, but the impression made by individual parts of that whole on each who looks for himself is different. To one, this peculiarity, to another, that, gives its feature to the disease. Nearly 60,000 sick children have been patients at this Hospital since its opening. A fair proportion of these have come under my observation; and I have endeavored to look at them with my own eyes. Some of the general impressions I have received I shall, I hope, convey to you; and some of the facts that I have seen I shall describe to you. Much of what I have to say may be found here or there on record; but, having looked for myself, I shall describe only from my own observations; and trust that what is thus lost in general completeness will be gained in freshness, and in fulness of details in reference to special parts of the subject; those points in the view which have made most impression on my mind will doubtless stand out most prominently before you. Before occupying my present

office I had read many excellent guide-books; I had been connected for some time with a large Hospital; I had seen among my out-patients, there and elsewhere, many sick children; I thought I knew most of the paths and passes of that great section of Pathology, diseases of children; and, had I been required, I should probably have undertaken to guide others through them. But a very brief experience taught me that I was mistaken—that I had much to learn before I ought to offer to lead others.

The first thing, then, I may say, which impressed me when I came to see diseases of children on a large scale, was the smallness of my knowledge in regard to them. I tell you this because I am anxious to impress on you my conviction that diseases of children do require special study, and time, and attention, to master them. At the same time I readily admit that the diseases of children are more easy to diagnose, and more easy to treat successfully than are the diseases of adults. Coming, as I did, to the study of the diseases of children after I had been engaged in teaching the diseases of adults, my mind was strongly impressed by three of the peculiarities of infant life—

1. By the comparative sensitiveness in the child of the nervous system generally to impressions, but more especially of those parts of the nervous system which are concerned in the production of reflex movements, and in the development of the so-called sympathetic derangements. In reference to these points the child seems at one end of the scale, the aged at the other.

A striking illustration of the sensitiveness of the child of reflex stimulation is afforded by the following experiment:

Pass the finger gently over the inner aspect of the upper two-thirds of the thigh of a young boy, and notice at the same time the movement of the testicle. You will see that it is instantly drawn up close to the external abdominal ring by the cremaster, and that with a rapidity which will surprise those who witness it for the first time. The scrotum remains flaccid; the testicle slowly descends. Repeat the stimulation on the opposite side, and the testicle on that side is now drawn up. Pass the finger over the skin of the outer part of the thigh, and the testicle is motionless. Touch the skin above the right pubis, and the right cremaster draws up the right testicle. Touch the skin above the left pubis, and the left cremaster is thrown into action. Stimulate the skin higher on the abdomen, and no movement of the testicle follows. Repeat the experiment many

times, or use powerful stimulation, and the contraction of the cremaster grows gradually weaker, till at last you fail in your effort to excite it to action. Rest restores the excitability of the part. You will remember that branches of the ilio-inguinal and genito-crural nerves supply the skin at the situations I have mentioned; and you may, I believe, in every case map out by the experiment I have referred to the exact portions of skin supplied by those nerves.

With reference to the derangements commonly called sympathetic. The old man may, nay often does, die from acute inflammation of the lungs with mind entire, a pulse scarcely more frequent than in health, respiratory movements only a little quicker than natural, and a skin of normal temperature. The child eats some indigestible food, and forthwith its pulse is rapid, its respirations are doubled in frequency, its skin is burning hot, its mind rambles, it is convulsed in every limb.

2. By the frequency with which, at examinations after death, structural disease of one organ only is found. Now, the pathological anatomist who examines all the organs and structures of the subject, and not merely that which during life was supposed to be mortally affected, cannot fail to have noted that death from uncomplicated acute disease is of comparatively rare occurrence in the adult. This seems to be the consequence partly of degenerations commencing in some structures long before what we call old age, and partly of organs or tissues once structurally diseased, rarely if ever recovering their absolutely healthy condition.

3. By the far larger proportion of children than of adults that are the subjects of profound diathetic diseases before they are the subjects of local lesions of structure; and when the subjects of diathetic disease, by the vast number of organs found after death to be seats of structural change.

The great diathetic diseases of childhood are four, viz: rickets, tuberculosis, serofulosis, and syphilis. All manifest themselves primarily by deviations from the standard of health, which deviations, *per se*, we do not call disease. For example, the delicate skin in tuberculosis, the thick complexion in serofulosis, the muddy tint of the skin in syphilis, and the low muscular power in rickets.

All are distinguished by their more decidedly pathological tendencies, that is, by the frequency with which they produce or are accompanied by striking and peculiar deviations from the healthy structure of particular organs and tissues; *e. g.* by softening of the bones in rickets, by the

deposit or formation of tubercle in tuberculosis, by a peculiar kind of ophthalmia in scrofulosis, by characteristic diseases of the skin and mucous membrane in syphilis.

I shall enumerate briefly the leading feature of a typical case of each of these four general conditions.

TUBERCULOSIS (a).

Nervous system highly developed; mind and body active; figure slim; adipose tissue small in quantity; organization generally delicate; skin thin; complexion clear; superficial veins distinct; blush ready; eyes bright; pupils long; eyelashes long; hair silken; face oval, good-looking; ends of long bones small, shafts thin and rigid; limbs straight. Children the subjects of tuberculosis usually cut their teeth, run alone, and talk early.

Leading Pathological Tendencies.—Fatty degeneration of liver and kidneys; deposits or formations of tubercle (b), and their consequences; inflammation of the serous membranes.

SCROFULOSIS.

Temperament phlegmatic; mind and body lethargic; figure heavy; skin thin and opaque; complexion dull, pasty-looking; upper lip and alæ of nose thick; nostrils expanded; face plain; lymphatic glands perceptible to touch; abdomen full; ends of the long bones rather large; shafts thick.

Leading Pathological Tendencies.—Inflammation of the mucous membranes of a peculiar kind; so-called strumous ophthalmia; inflammation of the tarsi; catarrhal inflammation of the mucous membrane of the nose, pharynx, bronchi, stomach, and intestines; inflammation and suppuration of the lymphatic glands on trifling irritation; obstinate diseases of the skin; caries of bone.

RICKETS.

Mental capacity and power small; muscular force deficient; mind and body inactive; figure short; closure of the fontanelles retarded; face small, but broad; skin opaque, often set with downy hairs. Children the subject of rickets

(a) I use this term to signify the condition of the system which precedes and accompanies the deposit or formation of tubercle, and which may or may not be accompanied by the deposit or formation of tubercle.

(b) I use both terms because I am unwilling here to express an opinion on the question whether tubercle be a deposit, as is generally believed, or a formation, as some Pathologists are now disposed to regard it.

are late in cutting their teeth, in running alone, and in talking, and their teeth drop early from their sockets.

Leading Pathological Tendencies.—Softening of the bones; enlargement of the ends of the long bones; thickening of the flat bones; so-called hypertrophy of the white matter of the brain; chronic hydrocephalus; pulmonary collapse; laryngismus stridulus; convulsions; albuminoid infiltrations of the liver, spleen, lymphatic glands, etc.

SYPHILIS.

Adipose tissue small in quantity; muscles flabby; cutis rough—deficient in contractility; complexion muddy.

Leading Pathological Tendencies.—Suppurative inflammation of the mucous membrane of the nose; ulceration of the mucous membranes of the nose and of the lips, mouth, throat, and anus; falling of the hair; eruptions on the skin of peculiar character; induration of the liver; suppuration of the thymus, lungs, etc.

There are Pathologists of high repute who regard rickets, scrofulosis, and tuberculosis to be mere modifications of the same disease. I and others hold them to be distinct affections (c). The whole difficulty of the question lies in the difficulty of determining what is necessary to constitute identical diseases (d). With reference to some diseases the grounds of separation are broad and unequivocal. Scarlet fever and measles are distinct diseases, because their specific cause is different. Syphilis and tuberculosis are undoubtedly not identical, because syphilis owes its origin to a specific cause, and tuberculosis does not. Rickets, tuberculosis and scrofulosis are due, it is said, to malnutrition, and therefore it is urged they are essentially identical; but it is manifest that the term malnutrition is at once very vague and very comprehensive. All diseased action by which unhealthy structure is formed in the place of healthy may be called mal-nutrition. Pus is the result of malnutrition,

(c) It has even been suggested that rickets is a variety of congenital syphilis, that it is not so seems to be proved by a consideration of the following facts:—The parent who infects his offspring has usually contracted syphilis before marriage, and the children first begotten after infection are those who suffer; while, as a rule, it is only the younger children of a family that suffer from rickets. The first-born of their parents being commonly healthy, though the later born are highly rickety.

(d) Many of the disputes which have arisen on the subject of identity of diseases have been the consequence of a want of definition of terms. Two diseases may agree in many very essential points, and yet not be identical, *e. g.* measles and scarlet fever. A and B are both letters of the alphabet, but A and B have very different significations. 1 and 2 are both numerals, but 1 and 2 are anything but identical.

cancer is the result of mal-nutrition, tubercle is the result of mal-nutrition—and yet the purulent, cancerous, and tuberculous diatheses cannot be held to be identical.

I hold rickets, tuberculosis and serofulosis to be distinct diseases in the sense in which tuberculosis and cancer are distinct diseases, and for the following reasons :

1. Because the general condition in each is perfectly different from that in the other.

2. Because the pathological tendencies of those who manifest these different general conditions are different.

3 (e). Because we so rarely see the pathological tendencies of the one manifested by those, the subject of the others, *e. g.* rickets is absolutely unfavorable to tuberculization (f)—tuberculization to strumous ophthalmia.

4. Because, tuberculosis being unquestionably hereditary, we do not find the children of phthisical parents specially prone to rickets or to serofulosis.

5. Because, although we often find several members of the same family the subjects of rickets, of tuberculosis, or of serofulosis, it is comparatively rare for members of the same family to be the subjects of more than one of these diatheses.

6. Because rickets is not hereditary in the sense in which tuberculosis is hereditary.

7. Because the course, prognosis, and treatment of each of these diatheses are different.

Among the children of the poor in London, the most widely-spread of these diatheses is rickets. It is, however, by no means limited to the poor, or to London, or even to large towns. I have very often seen it in the children of the wealthy, and even in the children of the wealthy living in the country. It was a consideration of the enormous number of those that suffer from rickets, the very large number that die annually from its effects, its remarkable anatomical characters, its limitation to children, its permanent effects, the very small space which it occupies in English books devoted to the diseases of children, and the contradictory statements on several most important points made by the best Pathologists who have bestowed attention

(e) I propose to analyze the facts on which 3, 4, 5 and 6 are founded in a separate paper. It is sufficient now to say the facts I have collected point to the conclusion that while more than forty per cent. of tubercular children are born of phthisical parents, about nine per cent. only of rickety children come of phthisical parents.

(f) Rickets does not by any means exclude tubercle. Rickety children may be tubercular, just as syphilitic children may be.

on the disease, that determined me to examine minutely the cases of rickets which came under my care in the Hospital.

I shall in the remainder of this, and in my two succeeding lectures, detail to you what I know, from my own observation of that which seems to me to be without question the most common, the most important, and in its effects the most fatal of the diseases which exclusively affect children.

Rickets is a general, or diathetic disease, manifested after it has existed a longer or shorter time, by certain lesions of the structure of the bones—and, I say, manifested after a time, because in some cases the general disorder unequivocally precedes the local changes, and before these latter occur, we can predicate that they will occur.

In some books, rickets is classed among diseases of the bones. This is a mistake; rickets is no more a disease of the bones, than is typhoid fever a disease of the intestines. Rickets leads to disease of the bones in the same way that typhoid fever leads to disease of Peyer's patches; but there is a general disease preceding and accompanying the disease of the bones in the one case, as there is preceding and accompanying the disease of the intestines in the other. The change in the bones is the anatomical character of rickets.

The most constant and striking anatomical lesions in rickets are—

1. Enlargement of the ends of the long bones—of the parts where the bone and cartilage are in contact, *i. e.* where the cartilage is preparing for ossification, and where ossification is advancing in the cartilage.

2. Softening of all the bones.

3. Thickening of the flat bones, *e. g.* the bones of the skull—the scapula.

4. Deformities which follow from mechanical causes acting on the softened bones, *e. g.* the deformities of the thorax, pelvis, spine, long bones.

5. Arrest of growth, not only of the bones, but of all the parts directly related anatomically and physiologically to the bones, *i. e.* of the muscles, vessels, nerves and teeth.

6. Certain lesions of the pericardium, lungs, and capsule of the spleen, the direct consequences of the thoracic deformity.

7. Less constant, but highly important changes, most commonly affecting the nutrition of the brain spleen, liver,

lymphatic glands, and muscles, and now and then of every organ.

I shall now consider the anatomical lesions of the bones, and the deformities that are their consequences, at greater length.

1. *Enlargement of the Growing Ends of the Long Bones.*—When we look at a child suffering from rickets, we are at once struck by the large size of the wrists. It has been supposed that the enlargement is apparent, not real; that the wrist looks large because the arm has wasted; this, however, is incorrect. I measured the circumference of several wrists in the rickety and the non-rickety, and found that whether reference was had to the age or the height of the child, or to the length of the forearm, the circumference of the wrist was greater in the rickety than in the non-rickety. I recently measured the height, the length of the forearm, and the circumference of the wrist of three children, two of whom are now in the Hospital, and obtained these results:

Disease.	Age.	Height.	Length of Forearm.	Circumference of Wrist.
Rickets.....	4 yrs. 0 m.	30 in.	4½ in.	4¾ in.
Rickets.....	3 " 2 "	30 "	4½ "	4½ "
Tuberculosis.....	3 " 0 "	35 "	5 "	4½ "

We find similar enlargement of the costal ends of the ribs, of the ankles, of the olecranon process of the ulna; in fact, of the extremities of all the long bones. Some Pathologists have stated that the ends of bones which are the least covered by soft parts, are the most affected; my experience is opposed to this assertion. The head of the thigh-bone and of the humerus suffer as much as the more exposed extremities of the long bones. As to the intimate anatomical structure of the large ends of the bones, there is excessive formation of the structures which precede or form the nidus for ossification, there is retardation and incomplete performance of the process of ossification (g.) In the healthy child the ends of the long bones measure more in circumference than the shafts, as the process of ossification is completed, the bone diminishes in girth.

(g) Die Rhachitis, eine Krankheit des Kindersalters, besteht in folgenden die beiden Momente im Wachsthum des Knochens betreffenden Anomalien —1. In übermassiger die Ossification vorbereitender Zellen-Wucherung im Epiphysen Knorpel mit Verbreiterung desselben, Markraumbildung in demselben, während der Verkalkungsprozess zurückbleibt. (Virchow). 2. In wuchernder sog. periostaler Auflagerung an der Diaphyse, welche nur sehr spät in Folge der Aufnahme von Kalksalzen verknochert, während im Inneren die Markraumbildung vorschreitet.—*Rokitansky Lherb. der Path. Anat.* Vol. ii. p. 135. Third edition.

In rickets there is an exaggeration of the condition we find in the first stages of ossification in the healthy subject, the completion of the process only is stayed. There is great development of the spongy tissue of the head of the bone, and of the epiphyses, and also of that layer of cartilage in which the primary deposit of calcareous matter takes place.

The layer of cartilage in which the cells are arranged in linear series instead of being half-a-line, is from a quarter to half an inch in breadth.

Again, the calcareous granular deposit is wanting at the boundary of ossification, and there the cartilage cells calcify before the matrix; the consequence of this is that you see the cartilage cells, being apparently converted into lacunæ and imperfect canaliculi.

You may easily trace all stages in the deposit of calcareous matter on the inside of the cells, from that in which it forms a mere ring to that in which it is so thick as to leave only a vacant space resembling an almost perfect lacuna.^(h) Kolliker has generalised from his observations on ricketty bone, thinking that in rickets the normal process by which the lacunæ are formed is visible. My observations lead me to quite another conclusion—the calcification of the cartilage cells in the growing cartilage in rickets seems to me identical with the calcification of the same parts ⁽ⁱ⁾ occasionally seen in enchondromata. It is a pathological process, a petrefaction. The spongy tissue is much more spongy in appearance than natural, and from the interstices of its meshes a deep red pulp is expressible. This pulp is composed of colorless nucleated cells usually containing only one nucleus, now and then two, and occasionally several blood globules, and in some cases a very large quantity of free fluid fat. If, as Sharpy, Somes and De Morgan have supposed, these cells play an important part in the completion of the process of ossification, and I am—from my own observation on ricketty bones, etc.—inclined to think they do, we see in their abundance in ricketty bones only a farther evidence that in ricketty bone there is excessive preparation for the process of ossification and arrest of the completion of the process. The periosteum is thickened over the head of the bone as over the bone generally. It attains its maximum degree of thickening just at the point of junction of the bone with the cartilage.

(h) Kolliker has figured this at page 241 of his "Handbook."

(i) See Quekett's "Lectures on Histology;" West's Translation of Muller; and Gamgee "On Enchondroma of the Testicle."

The periosteum of the whole bone is often more vascular and thicker than natural, but in the many post-mortem examinations of extreme rickets which I have made, I have never seen any bloody fluid as described by Guerin beneath that membrane. A crimson pulp fills the canal, and all the interstices of the tissues of the long bones. It is composed of elements identical in appearance with those expressible from the spongy tissue of the head of the bones. In this pulp, however, I have never observed any such quantity of free fluid fat, as I have noted in the heads of the bones near the line of progressing ossification.

2. The softening of the bones is sometimes so great that the bones which in their healthy condition are the strongest, may be bent by the most trifling force, and those which naturally are the thickest, may be cut by a knife with facility.

This softening of the bones is chiefly the consequence of the diminution of their earthy salts. It seems, however, from the experiments of Lehmann and Marchand, that the animal matter of ricketty bones differs, in some cases, from that of healthy bone; for, in some of their experiments, the bones yielded no gelatin on boiling.

Putting together the results of the analyses of several observers, we gather that the bones of healthy children yield about 37 parts of organic and 63 of inorganic matters; and that those of ricketty children yield about 79 parts of organic and 21 of inorganic matters.

3. The thickening of the flat bones is the consequence of thickening and increased vascularity of the periosteum, and of the abundance of the nucleated cells, which, with blood, form the pulp, which occupies all the meshes of the bone. The thickening is usually greatest just within or at the growing margin of the bone, so that in the cranial bones it is greatest near to or at the sutures, and least at the centres of ossification.

4. *Deformities which follow from Pressure on the Softened Bones.*—The spine is bent; the cervical anterior curve is inwards. This curvature is only strongly marked when the muscular debility of rickets (of which I shall speak hereafter) is very decided. The vertebræ being softened, and the muscles weakened, the head is no longer supported, and it falls forwards or backwards as circumstances may determine. Usually the child favors the falling of the head backwards, in order that it may see what is going on around just as when suffering from paralysis of the third nerves,

the child sits or walks with the head thrown backwards, in order that it may see under the fallen upper eyelids. There is a posterior curvature of the spine, if the child is unable to walk, commencing at the first dorsal and extending to the last lumbar vertebra. If the child walks, then the posterior curvature is limited to the dorsal region, and there is an anterior curvature in the lumbar region. This posterior curvature in the child yet in arms, is sometimes so extreme that it may be easily mistaken (and I have known it mistaken) for angular curvature. They are distinguished thus;

If the child be held by the upper part of its trunk, the weight of the lower limbs will usually remove the rickety curve, and it may certainly be straightened if the nurse hold the child by the upper part of the trunk and the Physician raises the lower limb with one hand and at the same time places the other on the curved spine.

This curvature of the dorsal and lumbar spine in rickets is the consequence of the muscular weakness, and softening of the bodies of the vertebra; its direction is determined by the weight of the head, etc. It is an exaggeration merely, of the curvature always existing when the child of three or four months old is sitting unsupported on the nurse's arm. Lateral curvature in the young child are less common than the antero posterior. Their direction is determined by the position accidentally assumed by the child. For example, if the child be carried on the left arm constantly, there is a disposition to lateral curvature, and the convexity of the curve will be towards the left.

The femur is curved forwards and outwards. This curvature is produced before the child walks, by the weight of the legs and feet. The child sits on its mother's lap, or on a chair, and the lower extremities hang pendant. The bone being flexible, yields. After the child walks, the weight of the trunk is the chief agent in determining the curvature of the femur. The curve which existed before walking will be exaggerated.

When the tibia curves before the child walks, or has been placed on its feet, the curvature is almost always outwards—an exaggeration only of the normal curve in the young child, and is produced by the child sitting somewhat cross-legged, and bearing on the floor or bed with the outer malleolus. After walking, the weight of the trunk is the chief agent in determining the bending of the tibia, and the direction of the curve will depend on the circumstances which determine the point on which the chief amount of pressure is brought to bear.

The curvature of the ulna and radius has been attributed to muscular action—to the child placing its arm around the breast of the mother, etc.; these causes are altogether inefficient for its production. The curvature of the bones of the forearm is produced by the child, owing to want of muscular power to support itself in the sitting posture, throwing part of its weight on to its arms. The child places its open hands on the chair, bed or floor, and throws a large share of the weight of its trunk on to the bones of the upper extremities; the bones of the forearm are twisted as well as curved outwards.

The humerus is sometimes bent at an angle, just where the deltoid is inserted. This curve is produced by the weight of the arm when the limb is raised by the action of the deltoid, and is increased by the cause which determines curvature of the forearm.

The clavicles are often the subject of extreme angular curvature. The chief bend is always at the same spot, viz: just outside the part to which the sterno-cleido-mastoideus, and the pectoral muscles are attached. The second bend is about half an inch from its scapular articulation. The first curve is forwards, and somewhat upwards; the second backwards. The curvature of the clavicle is produced partly by the weight of the arm on the humeral end of the clavicle—the sternal end being supported by the muscles just mentioned, and by its ligaments—but chiefly by the force brought to bear on it, when the weight of the trunk is thrown on to the upper extremities, the child being in the sitting posture, with the hands on the floor, or crawling.

The deformity of the greatest interest to the Physician is that of the thorax. The back is flattened. The ribs are bent at an acute angle where the dorsal and lateral regions unite. At that part the lateral diameter of the thorax is the greatest. From it, the ribs pass forwards and inwards to the point where they unite with their cartilages; on that line the lateral diameter of the thorax is the least, the cartilage curving outwards before turning in to unite themselves to the sternum. The sternum is thrown forwards, and the anterior-posterior diameter of the thorax is abnormally great. The consequence of the direction of the ribs being inwards, and of the cartilages outwards, is, that the thorax is grooved from above downwards on its antero-lateral face from the 1st to the 9th or 10th rib; the deepest part of the furrow being just outside the nodes formed where the ribs and cartilages unite. This groove extends lower on the

left than on the right side, but it is deeper on the 5th and 6th ribs on the right than on the left side; the heart and the liver respectively supporting, to some extent, their corresponding ribs. The points of maximum recession correspond to the 5th, 6th and 7th ribs. A little below the level of the nipple the chest expands considerably, the chest walls being borne outwards by the liver, stomach and spleen. If we examine the thoracic walls from the inside, the appearance is most remarkable, where the ribs join with the cartilages there are much greater projections than on the outside; but the 11th and 12th ribs, which are not inflexed, have the same enlargement on the inside as on the outside.

The great determining cause of the thoracic deformity is atmospheric pressure; this is aided by the elasticity of the lungs. How is the pressure of the atmosphere brought to bear on the thoracic parietes were made of cast iron or other unyielding material, then the diaphragm could descend only so fast as the air could enter at the orifice of the larynx, and overcome the elasticity of the lungs. The thoracic parietes, however, in their normal condition, are not absolutely unyielding; but then there is a due relation between their strength, the power of the diaphragm and the rapidity of its contractions, the size of the orifice of the larynx, and the elasticity of the lungs. The chest-walls being healthy, and the orifice of the larynx of normal size, if the young child sobs violently—*i. e.* contracts the diaphragm with abnormal rapidity and force—the most flexible parts of the thoracic parietes will fall in during inspiration.

If the orifice of the larynx be narrowed, and if the diaphragm contract with only normal rapidity and force, there will be recession of the softer parts of the chest-walls at each inspiration.

Again, if the orifice of the larynx remain normal, the diaphragm act as energetically as in a healthy child, and the chest-walls be softened, then, at each inspiration, there will be recession of the most yielding part of the thoracic walls.

It is this last condition which exists in the ricketty child. The part of the rib where ossification is imperfect and incomplete, is so soft that, at each descent of the diaphragm it recedes, and the furrow of which I have spoken is the consequence. Just in proportion as the ends of the ribs are forced inwards, the sternum is carried forward, and the consequence is the remarkable form of thorax, of which a model is on the table, of which some examples are now in

the Hospital, and of which it is rare to pass a day without seeing cases in the out-patients' room. Rokitansky has maintained that this deformity of the thorax is the consequence of want of power in the inspiratory muscles. I have repeatedly dissected subjects in which this deformity was strongly marked, and find that there is no correspondence between the points of insertion of the muscles of inspiration attached to the outer surface of the chest-walls and the points of recession. The preparations on the table bear out my assertion. Weakening of these muscles would have as its consequence general want of expansion of the lungs, and the thorax would have the form that it obtains in senile atrophy—viz., long, with narrow antero-posterior and lateral diameters.

Again, the diaphragm is said to cause the circular recession by its direct action—by drawing in the receding parts at each contraction. On the table are some dissections, which prove, when compared with the cases and the model, that the line of recession does not correspond to the points of attachment of the diaphragm. But it does correspond to the upper margin of the liver, spleen and stomach; and is produced—as the longitudinal furrow is—by atmospheric pressure: the parts of the parietes below being prevented receding by the organs I have just mentioned. The influence of the organs beneath in preventing the recession of the chest-walls is illustrated by the *apparent* bulging of the precordial region in every case of well-marked ricketty thorax. The chest-walls covering the heart do not recede so much as on the opposite side, and the consequence is that the left side is much fuller than the right; and, at first sight, it might be supposed that there was abnormal fulness of the precordial region.

In excluding muscular action from all direct share in the production of curvatures of the lying bones in rickets, I am, so far as I know, unsupported by any authority.—*Med. Times and Gazette*.

The Symptoms, Diagnosis, and Treatment of Intussusception. With Cases. Report read before the College of Physicians and Surgeons, by DAVID W. YANDELL, M. D.

In the following report, I have attempted to embody an account of all the cases of Intussusception contained in the very large number of medical periodicals, and other works, to

which I have had access. I have also attempted to condense the materials, which I have thus gathered, into limits suited to the sitting of the College, but in this I fear I shall disappoint the Fellows. I trust, however, that I shall, in some degree, at least, atone for the fault, by the practical deductions which will conclude the report :

Case I. A healthy boy, aged six months, had, on the 8th instant, two small, loose dejections, containing blood, passed without pain. 9th—Restlessness, nausea, and occasional distress, referable to the bowels. 10th—Distress greatly increased, without marked heat, tenderness or fullness of abdomen; slight retching, no dejection, thirst, pulse very weak. Castor oil, ℥ss. given and retained, followed in a few hours by a large, fecal and bloody evacuation, after which the abdomen began to swell and became greatly enlarged; no proper tenesmus, though throughout the day there was frequent and sudden action of the abdominal muscles, a kind of incomplete, abruptly terminating strain. At 2 p. m. patient was found moribund, gasping, gagging; intussusception diagnosed; unsuccessful attempts made to force water up the bowel. Just before death, which occurred at 6 p. m., patient threw up—it could hardly be called vomiting—a little thin liquid. Necroscopy: The ileum had passed through the cæcum and into the ascending colon, the whole lying over the right kidney; the gut was red from increased vascularity, but soft, and so far from being strangulated as to be easily withdrawn; cœcal appendage scarcely involved; upon the inner portion of the bowel, Peyer's glands were as much developed as in typhoid fever, being soft, with some red points and some lymph upon the surface, which was very irregular, the mucous membrane itself not being remarkable. Midway the bowel, the mucous membrane was inordinately red and rugose for about half its extent from the free extremity, but without mucus, blood or lymph. The passage through the intussusception before it was withdrawn, seemed sufficiently free, the intestine above being filled with liquid, and that below comparatively empty.—*Dr. Cotting in Boston Soc. for Med. Impt.* 1852.

Case II. An adult, with obstinate constipation and tenderness over a circumscribed spot, relieved by copious injections into the rectum of warm water—*Dr. Baldwin. Amer. Jour. of Med. Sci.* 1852.

Case III. A man, aged 23, robust, subject to frequent attacks of colic. On the 12th of February, he was seized at night with violent pain in the lower part of the abdomen, with shivering, frequent vomiting and purging. Next morn-

ing head hot and painful, tongue foul, thirst, abdomen swollen and tender to the touch; pulse full, hard, frequent; vomiting; watery stools, tinged with blood. 19th—Tenesmus. 23d—Prolapsion of part of the intestine, which was easily reduced. 26th—Passed twenty inches of bowel, being a portion of the ileum, the cœcum, vermiform appendix, the whole of the ascending and a part of the transverse colon. A month after, the patient left the hospital well.—*Dr. Nagel. Gazette Medicale. 1854.*

Case IV. A lad, aged 17. May 26th—Taken with general febrile symptoms; expression anxious; abdomen becoming tympanitic, not tender; painful tenesmus; no dejection; everything rejected by the stomach, matters vomited being grass green. Calomel, opium, purgatives and turpentine glysters were given during two days. 28th—There was general tenderness of the belly, especially of the left hypochondrium, where a distinct and hard tumefaction was observed. Leeches, fomentations, etc., were used, but no evacuations occurred until the 31st, when they were copious and very offensive. The vomiting now ceased and the patient gradually improved. June 8th—Passed two and a half or three inches of what was supposed to be a small intestine. Complete recovery.—*Am. Jour. Med. Sci.*

Case V. A man, in vigorous health, 35 years of age, suddenly seized with excruciating pains in the abdomen, with partial remissions and obstinate constipation, which resisted all means of relief, died in intense agony in thirteen days. At the necroscopy, the ileum was found to have made a complete revolution upon itself with the peritoneum as its axis, so as to strangulate a knuckle of intestine five inches in length. There were two points of strangulation; the first, immediately above the intussusception; the second, twelve inches above the last. They were twisted around each other so as to form a *knot*, which it was difficult to undo after the gut had been removed from the body. The intussusception was one and a half inches in length and four inches above the termination of the ileum. The coats of the intestine were so firmly agglutinated that they presented the appearance of a fleshy tumor, blocking up its entire caliber. The ileum was of a dark red—almost black—hue throughout all its coats, extending even to the mesentery; and about twenty inches of the bowel were congested.—*Dr. Gordon. Southern Med. and Surg. Jour. 1845.*

Case VI. A man, aged 35, health not good, subject to colic, was attacked with severe pain in the right lumbar region. V. S. and cathartics produced partial relief. Three

days after, when seen by Dr. D., patient had pain in its original seat, general tenderness of the abdomen, and at short intervals most excruciating pains, except when under the influence of anodynes. This state continued for four weeks, death seeming inevitable, when a portion of small intestine, a foot and more in length, was voided *per anum*, and the patient recovered. There was no vomiting in this case, and cathartics operated without unusual pain or difficulty.—*Dr. Dayton. N. Y. Jour. Med.* 1845.

Case VII. A girl, aged 9 years, after an attack of dysentery, had vomiting, great prostration, and immense distention of the belly. On the fifth day she passed large quantities of bloody serum without feculent matter. From the seventh to the twelfth day, there were small quantities of feces discharged, when perfect relief ensued upon the passage of a portion of intestine, doubly invaginated, ten inches long. The treatment consisted in opiates endermically applied and thrown into the rectum.—*Dr. Paterson. London Lancet.*

Case VIII.—A girl, six months old, cried violently Friday evening, but was quieted by Godfrey's cordial. Next morning she was feverish, and cried. Castor oil was taken, but rejected. At 12 M. vomited all ingesta; no fever or unnatural fullness of the bowels; tranquil; somewhat disposed to play; obstinate constipation; purgatives; opiates; a good night. Following night, the skin was cool; no tympanitis; no tenderness; gradually grew cooler and more languid, and died Monday, a. m., fifty-five hours after the first appearance of the disease. Necroscopy. A knot was felt through the abdominal walls in the right iliac region, which proved to be about eight inches of the small intestines which had slipped through the ileo cæcal valve.—*Dr. Shipman. N. Y. Jour. of Medicine.*

Case IX. Boy, æt. 12, previously healthy, complaining of pain in the belly for two or three weeks, was seized with severe pain in the left abdomen. In two days after, the pain had extended over the whole abdomen: not much tenderness on pressure; great thirst; constant vomiting of fœtid and greenish matter. A hard body was felt, and its outlines seen in the position of the transverse and descending colon, and the finger carried into the rectum touched the tumor. The treatment consisted of cathartics, injections, sinapisms, opiates, a tube carried into the colon, etc. Death ensued on the evening of the fourth day. Necroscopy. Twelve inches of the jejunum were found forced into the next twelve inches below. At the commencement of the fold, the intestine was so much contracted as scarcely to admit the point of the finger, and felt like a cartilaginous ring.—*Am. Jour. Med. Sciences.*

Case X. A girl, aged six years, after eating a quantity of raw carrots, was seized with pains in the bowels, which continued more or less for eight months, when she died. The bowels, meantime were regularly open, about three times a day, but the stools were always very thin and watery, and during the last three months they were mixed with slime and blood. As the lower half of the colon was lined with the inverted upper half, it followed that no part of the fecal remains came in contact with the colon, the termination of the ileum being drawn through the centre of the intussusception to the anus. This may account for the stools being thin and watery. There was no remora in the large intestines for the formation of natural stools.—*Mr. Davies. Med. Chir. Rev.* 1825.

Case XI. A man, collecting wood, felt all at once a dragging pain in the region of the umbilicus, which quickly augmented and forced him to cease work. He crawled home with difficulty and lay down. In the evening had a motion. Next day worse, with colicky pains every 20 or 30 minutes. Castor oil, salts, V. S. Temporary relief; pains returned in the evening, with increased violence, and much discharge of wind; symptoms continued the same for four days. The Dr. found the patient in bed, not then in pain, but the countenance pale and anxious; temperature not much increased, abdomen not hot or distended, but sensitive on pressure, pulse sixty, regular and soft; a tumor detected about the angle formed by the ascending and transverse colon; no stools for five days; had vomited only once. In half an hour agonising pain came on, the tumor appeared about the size of the fist, was hard, and itself the seat of pain. V. S. and leeches to the part. Strict antiphlogistic treatment until the eighth day, while baths, fomentations, glysters, etc., were tried without avail; an operation proposed, but not assented to; red oil and opium given hourly for six hours; large quantities of cold water thrown into the rectum; patient felt it reach the hardened part, but no further. Vomiting on the ninth day; not stercoraceous; abdomen greatly distended; tumor unchanged; six ounces of mercury, without effect. Operation consented to and performed on the tenth day. *Operation*—Abdomen opened at the outer edge of the right rectus muscle two inches above the level of the umbilicus. The hardened part, being a portion of the ileum, was withdrawn, the gut incised at one end of the intussusception for two inches, the finger introduced into the opening, and the intussuscepted part pushed back from right to left, the operator gently drawing that part of the intestine containing the intussusception toward him. The entangled intestine, when unfolded, measured two feet;

no traces of inflammation; the intestinal wound was closed by the Glover's suture, the ends brought out of the wound; the integuments secured by the interrupted suture. Natural stool on the second day. By the fourteenth day he was completely cured.—*Dr. Fuschtius. Hufeland's Jour.* 1825.

Case XII. A young man (Mrs. Belzoni's servant) had a severe abdominal inflammation some years before, and since had been very irregular in his bowels, and subject to prolonged constipation; was seized with abdominal pain while lifting a heavy weight. This was attended with obstinate constipation which was never overcome. He died in agony ten or twelve days from the commencement of the disease. Necropsy. The intestines above the obstruction were greatly distended, but no inflammation to account for death. A portion of ileum had become entangled under an old band, formed, probably, during a previous illness, and though easily drawn out, complete obstruction had been the consequence.—*Med. Chir. Rev.* 1825.

Case XIII. A man, aged forty years, after some muscular exertion, felt acute pain in the right iliac fossa, followed by colic, frequent vomiting and purging, with intervals of ease; had occasional discharges of blood. During the paroxysms the left iliac region presented the figure of a large convolution of intestine. Countenance drawn, tongue, furred, thirst, slow pulse. Leeches, fomentations, demulcent drinks, and the like. Six days after admission, and four months and three days after first seizure, while straining at stool, he felt something give way in the abdomen, and in a few moments he became very ill, abdomen inflated and exquisitely tender. He died at 8 o'clock the same evening. Necropsy. Universal peritonitis, but no extravasation. Recent coagulable lymph abundant. The cæcum and ascending colon were carried forward and enclosed in the last half of the transverse arch and in the sigmoid flexure, which was as thick as a man's arm, and hard or solid to the touch. The cæcum was found in the sigmoid flexure in the iliac fossa. The invaginated parts were agglutinated together, and in some places gangrene had commenced. Up to the day before the patient's death, he had fluid evacuations.—*M. Buct. Arch. Gen'l.* 1828.

Case XIV. A man, aged 22, admitted 8th Aug., 1825, had had colicky pains and diarrhœa for some time, with intervals of ease. Ordered emollient fomentations, diluents and lavements. On the 12th and 13th the symptoms were aggravated, features sharp, pulse concentrated, and the left iliac fossa very painful on pressure. Leeches and opiates. 14th, pain insupportable, nausea, vomiting and spasms. 16th, symptoms of

peritonitis; a great number of leeches were applied, but the disease was unchecked, and death occurred on the 18th, ten days after admission, and six days after the appearance of urgent symptoms. Necroscopy. General peritonitis; numerous adhesions and false membranes, but no effusion or extravasation. By moderate traction it was discovered that the cæcum, ascending and transverse colon were engulphed in the descending colon. The cæcum was gangrenous.—*M. Buct. Arch. Gen. Vol. VIII. 1828.*

Case XV. A man, aged 44, was taken suddenly with pain in the bowels Nov. 25, which increased until next morning, when he was seen. Pulse full, but not hurried, tongue clean, face anxious, belly not distended, no evacuations since attacked, excruciating pains which were partially relieved by pressure about the umbilicus with intervals of three or four minutes ease, severe vomiting and thirst. Purgative glyster; repeated, no relief; blister over the whole abdomen, and opiates; vomiting allayed; pains in some degree dulled; twelve grs. of calomel; twelve hours after, pain and vomiting had returned as violently as ever; copious warm water injections tried, but with no avail; twelve grains of calomel on the morning of the 27th, without relief; pain, on pressure in the right iliac fossa; a gallon of warm water thrown up; no benefit; air was then injected with a common bellows with immediate relief, and on the fourth trial an evacuation was obtained, the vomiting ceased, and he complained only of general soreness; eight grs. calomel and one gr. opium, followed by free evacuations and complete cure.—*Med. Ch. Rev. 1839.*

Case XVI.—A woman, aged 44, weak and small, the mother of many children, subject to fits of colic, had an attack on Sept. 19th, which was not relieved by customary remedies and was attended with constipation. Seen on the morning of the 21st. Paroxysms every two or three minutes of violent, deep seated pain; tenderness on pressure, especially in the right iliac region; heat little increased; pulse small and hard; urine scanty; no evacuation since the 19th; everything swallowed was rejected. Various remedies were tried until the 23d, but without relief. On that day, faeces were discharged by the mouth, and hiccough had commenced. Dr. Ebers then considering the case hopeless, administered ℥ij. of quicksilver, 10 drops of laudanum and several small cathartic doses; a few hours after, ℥j. more of mercury. Soon after, every symptom indicated relief, gurgling was heard in the intestines, but no evacuation. The favorable symptoms disappearing, other ℥ij. of mercury given at 2 o'clock in the

morning of the 24th; patient fell asleep and remained quiet for two hours, when at length copious feculent evacuations occurred, and all her sufferings were relieved. By the middle of October, with the exception of weakness, her health was re-established. No salivation.—*Dr. Ebers. N. Y. Med. and Phys. Jour.* 1830.

Case XVII. A woman, several days ill with obstinate constipation, dreadful abdominal pains and vomiting, was admitted into hospital. On that day she vomited a large quantity of feculent matter. Countenance sunk, skin and extremities cold, pulse small and quick, strength exhausted, abdomen tender and doughy. A warm bath and glysters were tried without avail, medicines were immediately rejected, \mathfrak{z} iv. of mercury were given, and in a few minutes she became a little quiet; in an hour had \mathfrak{z} ij. more of quicksilver, after which she fell asleep. In half an hour, she discharged an enormous quantity of fetid feces. She recovered with great rapidity.—*Ed. M. and S. Jour.*

Case XVIII. A boy, aged 16, ate some nuts Sept. 8th; unwell on the 9th; seen by Mr. Fox on the 10th; pain about umbilicus; no motion for twenty-four hours. The case assumed all the characters of intussusception, and resisted all remedies. On the 16th, Mr. Fox determined to try inflation. This was done by means of a common bellows, a bladder and common enema pipe. The inflation was forcibly but slowly persevered in for many minutes until the boy complained of a disposition to "break wind." The tube was withdrawn, and in twenty minutes a copious evacuation took place. On the 23d, at Mr. Fox's visit, he found the patient comfortable, but the nurse showed him a large piece of bowel which had come away with one of the stools. It was a portion of one of the intestines, five inches long, with some of the mesentery still adhering. The lad recovered perfectly.—*Mr. Fox. Med. Chir. Rev.*

Case XIX. A negro man, aged 20, seventeen days ill with pain, stercoraceous vomiting, obstinate constipation, etc. Incision made in the linea alba, commencing two inches above the umbilicus, and extending two or three inches below. The intussusception was found in the ileum. The bowel was grasped above and below the point of obstruction, and after several efforts of considerable force, the adhesions gave way. The parts seemed to be on the verge of mortification. The wound was closed by a few stitches and adhesive straps. His recovery was rapid and entire.—*Dr. Wilson. Transylvania Jour. Med. and Surgery.*

Case XX. A woman of spare habit, admitted into hospital

January 25, 1840. Attacked the day before with pain in the abdomen, vomiting, diarrhoea and tenesmus. When admitted, the diarrhoea had ceased, but the vomiting and tenesmus continued until the 27th, when she died. No tumor could be detected during life. Post mortem: First stage of peritonitis; no effusion. The termination of the small, and commencement of the large intestines, formed a tumor of considerable size, extending from the left side downward to the right iliac fossa. It consisted of an invagination of the ileum, about twelve inches of which had passed through the ileo-cæcal valve into the cæcum and colon. A pear-shaped, fleshy polypus, about an inch and a half in length, grew from the ileum, and seemed to be the cause of the invagination.—*Dub. Jour. of Med. Sci.* 1840.

Case XXI. A man; usual symptoms; movable tumor near the umbilicus; duration not stated; diagnosed as malignant disease; on post mortem found to be a retrograde invagination of the descending into the transverse colon to the extent of three or four inches; no general inflammation, but the intussuscepted intestine was found in an ulcerated condition, accounting for an unhealthy discharge which had existed during life.—*Dublin Med. Press.*

Case XXII. A man, aged 45, had an attack of violent abdominal pain during the night of March 3d. Next morning Dr. J. was summoned, and found the patient vomiting frequently, pulse nearly natural, no fever, abdomen painful on pressure. Cups applied, and camphorated effervescing draught prescribed. In the commencement of the attack all the usual remedies were applied, but the case ran the ordinary course until March 12th, when a copious discharge of fetid, black blood took place, followed by great exhaustion, and death. Post-mortem: traces of peritoneal inflammation and alteration, but not of great extent or severity. Fourteen or fifteen inches of the ileum had passed through the ileo-cæcal valve into the cæcum and colon. The colon contained a large quantity of blood. The hemorrhage was undoubtedly the immediate cause of death. An hour before it commenced, the symptoms presented nothing indicative of immediate danger. Had the hemorrhage not occurred, adhesive inflammation, followed by sloughing of the invaginated portion of intestine, might have left a free passage from the small into the large intestine. The invagination probably commenced several months before in a previous attack of colic, from which time he had uneasiness in the right iliac region, with repeated relapses. The large, fibrous mass which existed between the peritoneal coats of the invaginated part, must have been the work of time, and

could not have been produced at the last attack.—*Samuel Jackson. Amer. Jour. Med. Science. 1833.*

Case XXIII. A male child of three and a half years. He was pawed by a horse two years before, and much contused upon the back and in the left iliac region. From then up to the first of November, he frequently complained of pain in the abdomen in the vicinity of the injury. At that time it became greatly aggravated, with occasional vomiting. The mother administered large doses of laudanum without benefit. About the beginning of January my attention was called to the case. Vermifuge was ordered, supposing the trouble owing to worms; no change in the symptoms. About six weeks previous to his death, diarrhœa came on, with discharges of bloody mucus; pain still severe, with great tenesmus at stool; two lumbricoid worms passed; prolapsus ani also occurred; the child was greatly emaciated and suffered intensely. Calomel and opium were given for some time, but finally exchanged for sol. sula. morph., which was continued *pro re nata* till death, July 10th. Post mortem—Some peritoneal inflammation; the lower part of the ileum, cæcum, colon and rectum were inflamed, the cæcum approaching gangrene; it was inverted into the colon, passing through its whole length, and lodging in the rectum near the anus; the cæcum, all the colon except about ten or twelve inches of its lower part, and a considerable part of the ileum, had passed into the lower portion of the colon, and the rectum, making altogether more than two feet of inverted bowel. The apparent prolapsus ani was probably the protrusion of the cæcum through the sphincter.—*Amer. Jour. Med. Sci.*

Case XXIV. Dr. William Merriman relates the case of a child who was taken suddenly ill, appearing to suffer in the bowels; a good deal of purgative medicine was given without effect; it died at the end of four days. On post-mortem, intussusception was found, the cæcum and its appendix, and the cæcal valve having passed into the colon.—*London Lancet.*

Case XXV. Mr. Snow assisted at the post-mortem examination of a child that died of a similar intussusception, but to a greater extent, for the ileum passed into the colon as far as the commencement of the sigmoid flexure; the coats of the intestines were much swollen from congestion.—*London Lancet.*

Case XXVI. A man, aged 30, undertook severe labor after eating a quantity of cherries, swallowing the stones. He was soon seized with pain in the hypogastrium, followed by vomiting. A short distance from the right iliac fossa, a shining tumor the size of a pullet's egg was observed; no action on

the bowels for four days; stercoral vomiting. As death seemed inevitable, gastrotomy was performed. The tumor was found to consist of a fold of ileum twisted upon itself so as to form a ring, which could not be liberated. Under these circumstances, three incisions were made into the projecting intestine. The incisions were united for suture. Recovery slow, but perfect.—*Dr. Reali. Rev. Med. Chir.*

Case XXVII. A man aged 63, had violent pain and spasms in the epigastric and umbilical region; violent vomiting; frequent desire to go to stool; passed nothing; pulse 96; weak. Castor and croton oil; flexible tube carried to the sigmoid flexure; injection of three quarts of soapsuds, which brought away large quantities of grumous blood mixed with fæces; in four days he found the bowel hanging from him; in three days after, getting hold of it, the patient pulled it away; it measured four and a half feet.—*Dr. Sheldon. Med. Chir. Rev. 1850.*

Case XXVIII. Mr. Harlan, of London, reports the following: A girl, five months old, became restless and suffered from excessive gastric irritability; tongue furred and white; no fever. Ordered calomel and castor oil, which, though retained, were without effect. When the patient strained, the bowel protruded an inch or more at the anus. This was thought to be an ordinary inversion of the rectum. The child lived until midnight. At the post-mortem, the colon appeared as if distended with black fæces. The intussusception commenced in the ileum just where it enters the caput coli, which was found in the left hypochondriac region. The parts involved in the disease were about one inch of the ileum, the whole of the cæcum, with a portion of the colon—these being received into the remaining portion of the colon. The cæcum had descended into the rectum, which gave the latter the appearance of faecal distention, although very little faecal matter was found below the commencement of the intussusception, and that little was fluid. The cæcum was thickened from inflammation, and its inner surface, together with that of the strictured colon, was gangrenous. It was this hardened, tumefied and inverted cæcum which protruded during the act of straining, and had been mistaken by Dr. H. for a prolapsus of the rectum.*—*Med. Ch. Rev. 1839.*

Case XXIX. During the same year, and in the same periodical, Mr. Gorham details three cases. One was an infant, four months old, who vomited when taken from the breast, at

*The post-mortem in this case is very loosely described, and in some portions is manifestly incorrect.

2 o'clock, p.m. This continued throughout the case. Between 7 and 8 o'clock the same evening, it was first observed that pure blood alone was evacuated per anum. The quantity amounted to three or four teaspoonsful; the skin was pale and hot; there was no emaciation; the infant lay quiet for a few minutes, and then cried out, the countenance expressing pain; abdomen soft and hot; nothing abnormal could be felt in the rectum: some dark blood followed the digital examination; vomited six or eight times within half an hour; enemata were returned as fast as given. Poultice over the abdomen, and $\frac{1}{4}$ gr. ext. of conium in a teaspoonful of camphor mixture given every four hours. No more blood passed, but the patient always vomited after taking the breast; convulsions came on during the night, and at 9 a.m. a fit proved fatal. Post-mortem—Four intussusceptions of the small intestines, which were easily reduced, were found over-lying the peritoneum, which was slightly red. The lower part of the ileum was a deep red color and intussuscepted in the ascending colon, which latter was also swallowed within the transverse. The appendix cæci was highly injected, and along with the cæcum occupied the upper part of the invagination. The colon below the intussusception was of a dark bluish color.

Case XXX. A woman, aged 26, had obstinate vomiting after uneasy sensation in the stomach; violent paroxysmal screwing pain between the sternum and the umbilicus. Calomel, jalap, castor oil, laudanum and the warm bath all useless. Five days passed without a dejection; the common bellows was used, and as soon as the air entered the rectum the countenance lost its anxiety, and the patient was relieved. In a minute she passed a stool, and complete recovery resulted.

Case XXXI. The symptoms were vomiting of a dark, fetid, oily fluid, hiccough, severe pain about the navel, no motion four days, when the bellows was used. Six dejections followed in the course of the day, and the patient recovered.—*Med. Ch. Rev.* 1839.

Case XXXII. A woman, aged 25, had diarrhœa and occasional colic for two months, with fits of vomiting. In the second week of May, she was admitted into the hospital. Firm, hard swelling in the ileo-cæcal region; not very sensitive on pressure; leeches to the swelling and anus without benefit; obstinate constipation and vomiting, at first bilious, then fæcal. After other means had failed, a pill of croton oil produced an evacuation and gave relief, which was, however, only temporary, for on the following week all the distressing symptoms returned, resisting croton oil and all other remedies. Gastrotomy was now performed, as a last resort. An incision

was made over the tumor, and a loop of small intestine drawn out and opened to the extent of an inch and a half. A quantity of faecal matter flowed out, with great relief to the patient. The wound of the intestine was with some difficulty retained in the external wound by ligature; light dressings were applied, and the patient put to bed. On the next day the condition of the patient became rapidly worse, and she died that evening. Post mortem—General peritonitis in the last or purulent stage. The intestine which was opened proved to be the ileum, eight or nine inches above the caput-coli. The obstruction was found to be at the junction of the caecum with the colon. The constriction was so great as barely to allow of the passage of the little finger. The caecum rested posteriorly on an indurated scirrhus-like mass, but the mucous coat of the gut was uninjured. The rest of the intestinal canal showed but slight signs of disease.—*M. Monoid. Arch. Gen.*

Case XXXIII.—A child six months old, put out to nurse at three months; ailing, and troubled with colic and diarrhea from that time. On the afternoon of August 10th, he had a small, natural motion, which was the last, although he lived until the morning of the 14th. On the 11th Dr. B. was called in; found the napkins stained with blood; food and injections were immediately rejected; great and continual uneasiness, and progressive feebleness and emaciation up to the hour of death. Post-mortem—On slitting up the rectum, its impacted contents were found to consist of the caecum, the greater portion of the colon, and a small part of the ileum, with some omentum.—*Dr. Burford. London Lancet.*

Tongue Removed by the Ecraseur.

In the New Orleans Medical News and Hospital Gazette for February, Dr. S. Choppin reports a case of removal of the tongue, for cancer, with the ecraseur. The operation lasted fifteen minutes, and was accompanied with no hæmorrhage. This operation is usually accompanied with considerable hæmorrhage, and it is highly probable that the ecraseur is, in such cases, a valuable surgical appliance.

Radical Cure of Hernia.—Dr. Choppin, referred to, is an earnest advocate of the Wurtzer plan of operating for the radical cure of hernia. He has operated many times with success, and has demonstrated, by post-mortem examinations of subjects operated upon years before, that positive

occlusion of the canal had taken place; thereby rendering the recurrence of the hernia impossible. The editors of the Medical News and Hospital Gazette, referring to Dr. Chopin's operations, and his lecture upon this subject in the Charity Hospital, say, "We have several times before called attention to this most valuable operation, and offer no apology for repeating our opinion, that it is one of the most important surgical innovations of the age, if not absolutely the most important." Several eminent surgeons have ridiculed this operation; but, really, we hope the views and experiences of Prof. Choppin may be proved to be correct by subsequent clinical observation.

Radical Cure of Hernia.—In the Medical Press, for February 11th, Dr. J. W. Rosebrugh reports a case of hernia apparently cured, after two operations after the plan of Wurtzer. He says: "The inguinal canal was so large that three good-sized fingers could be introduced into it." Hopes of success were entertained after the first operation, but after a month the patient felt something give way, and a fold of intestine descended into the scrotum. On reducing the hernia again, "the canal was found to be so small that the point of one finger could scarcely be insinuated into it." Encouraged by a partial success, the operation was repeated, and three months after there is every prospect of a radical cure.

Prof. J. C. Nott, of Alabama, writing from London to the New Orleans Medical and Surgical Journal, and speaking of this operation, says: "In Paris, I talked with Velpeau, the Nestor of French surgeons, with Nelaton, and others, and they all say that Wurtzer's operation, or any other on similar principles, cannot be relied on, the disease returning in the great majority of instances. In fact, the operation is scarcely performed at all now in Paris." Opposed to these views, we may instance the following, as the most recent, in addition to those previously referred to. One of the editors of the New Orleans Medical News and Hospital Gazette, in the February issue, says: "The fact that the radical cure of hernia can be nearly always accomplished by the method under consideration is no longer to be disputed, and he who sneers at it is only furnishing a stick with which to have his own head broken."

In the Charleston Medical Journal and Review for January, Dr. T. L. Ogier reports twelve successful operations by Wurtzer's method, and he says he has performed nineteen other successful operations, not included in his report.

Dr. Ogier concludes his report thus: "Recent cases, in subjects under forty years of age, are always successful, and as far as my limited experience goes, quite free from danger."

In the paper of Dr. Rosenbrugh in the *Medical Press*, the author says he was not aware that the operation of Wurtzer had ever been repeated in the same individual. In the *Medical Times and Gazette* for August 6th, 1859, Dr. Redfern Davies reports forty cases of this operation, in five of which the operation had to be repeated. He says: "Where the rings are very large, and relaxed, the operation is sometimes unsuccessful, and has to be repeated." Out of Dr. Davies' forty cases, "but two were complete failures, and of these one was owing to supervention of small-pox."

If the operation for the radical cure of hernia is seldom resorted to in Paris, as we are led to believe by reports, it is frequently and successfully performed both in England and America.—*Am. Med. Monthly*.

Induction of Premature Labor.

In the *Louisville Medical Journal* for February, Prof. Henry Miller has an article upon the induction of premature labor and abortion, with cases. We refer to it for the purpose of quoting his method of using the *uterine douche*. He says: "For this purpose an apparatus was constructed according to the directions of the German professor, (Kiwisch,) with only a slight and important variation, consisting of a tin box, ten inches square, holding about four gallons, with an india-rubber tube, twelve feet long, attached to the bottom of the tin box by a screw and nut, and having a metallic tube, six inches long, affixed to its other extremity—the end of the metallic tube being fashioned like the nozzle of the common enema syringe. Instead of arranging the apparatus to act on the principle of the siphon, as recommended by Kiwisch, a stop-cock was adapted to the india-rubber tubing, about two feet from its metallic end. To put the apparatus in operation, the box must be suspended on a nail driven into the wall, near the ceiling of the room, say nine or ten feet above the floor; the india-rubber tubing must be screwed on, and the stop-cock turned, so as to prevent the flow of the water till it is wanted. The patient takes her seat on a stool placed in a bath-tub to receive the water, the metallic nozzle is introduced into the vagina, and in contact with the os uteri, and

the tin box having been previously filled with water, the stop-cock is turned, so as to pour a continuous stream upon the os uteri until all the water in the box is discharged." Prof. Miller uses the water warm at first, and, if need be, subsequently alternates cold and warm. In the successful case reported, the *douche* was used but once on the first day. On the second, third and fourth days, it was used twice each day. On the fifth and sixth days he used warm, and then cold immediately after, using the warm and cold *douche* each twice each day when labor set in.

The fact that the *douche* will sometimes fail in inducing labor, and the number of times it has to be repeated before success crowns the effort, will always operate against this procedure. We prefer the separation of the membranes, which can be done at one sitting, is usually safer when properly performed, and is always successful.—*American Med. Monthly*.

Action of Chloride of Zinc as a Caustic. By SALMON and MAUNOURY, Surgeons to Hotel Dieu, at Chartres.

Chloride of zinc, as compared with caustic potassa, is an agent producing cauterization very slowly. It does not dissolve tissues, but on the other hand, renders them harder and more coriaceous; under the microscope, one can recognize very readily all the anatomical elements of which they are composed. The cauterized surface prevents the ready penetration of the fresh caustic, when it is desired to act at a greater depth; and then it is necessary to remove the eschar, already produced, by caustic potassa, or to cut off the same by the bistoury, or to await its removal, which requires from six to eight days.

It is a caustic which does not spread under the following conditions: 1st. When it is applied on moist or fungous tissues, on a wound, &c. 2d. When the successive layers of the tissue to which it is applied are all of like ready penetrability. But if, under a tissue easily destroyed by the cauterization, an aponeurotic expansion, muscular tissue, &c., be found, it scarcely penetrates these, and spreads through the tissue on which it has been applied, until it doubles, or even triples, the size of the required eschar; hence it cannot, with justice, be said that chloride of zinc destroys tissues like a punch.

It destroys cellular tissue more readily than cutaneous;

and the latter more readily than fibrous or muscular tissue, &c. Contrary to the assertion of Girouard, it attacks morbid tissues, such as cancerous growths, with the same facility that it penetrates fungous tissues. If the morbid mass be enveloped with a fibrous covering, the zinc caustic can isolate this mass, but this does not imply the rapidity of its penetration in the morbid tissue when deprived of its envelope. It coagulates the blood even in large vessels, but does not prevent hæmorrhages from following its employment, even when the arteries are only of medium size. Eschars formed by it are soluble in potassa, and this property can frequently be utilized with the view of hastening the termination of cauterizations.—*Gazette Medicale de Paris.*

Spontaneous Cure of Cancer of the Breast.

Guerdan, of Billigheim, having a female under treatment for cancer of the left breast, with swelling of the axillary glands, sent her to Professor Chelius, who pronounced the case not suited for operation. It was decided then to employ the hemlock plaster. The physician was sent for, one evening, in great haste, and finding the patient bathed, as it were, in a pool of arterial blood, he ordered, without any great hopes as to the result, five drops of tinct. ferri. muriat. æther. every half hour. On his seeing her again, she told him that, after her return from the hospital, erysipelas had appeared on the diseased breast, which surrounded the tumor with a dark-red circle, for which she had employed fomentations of cold water. After some days, the circle changed its color from a bluish-red to a leaden hue; the scirrhus breast was covered with sanies; by degrees the whole diseased mass was decomposed into a granulated mass, analogous to a mixture of sanies and gluten, and, in five months, the whole cancerous breast was removed, leaving the pectoralis major exposed. Not only did granulations form a normal cicatrization, but the axillary glands, whose volume had diminished one-half during the suppuration, continued to disappear, until it was difficult to detect them by the touch. There remained nothing abnormal on the cicatrix, except a horny crust, which was kept covered with charpie and flannel. From that time, this person enjoyed good health, presenting no trace of cancerous disease or diathesis, and died eight years after, of an acute pleurisy.—*Echo Medical Suisse.*

External Application of Belladonna in Scarlet Fever. By J. W. BENSON, M. D.

In twenty-five successive cases of this disease, which have been latterly under my professional care, the treatment consisted in innunction of the parotid and submaxillary regions by an unguent composed of fifteen grains of the extract of belladonna to an ounce of simple ointment. This was applied freely and frequently as soon as the patient complained of sore throat. A piece of flannel was afterwards applied, and in no case was any other treatment adopted, except the administration of small quantities of neutral mixture during the day. In some cases of rapidly occurring tumefaction of the throat, the prompt subsidence thereof under the treatment, left no room for doubt as to its efficacy. I do not pretend to offer this mode of treatment either as a cure for scarlet fever, or as the sole means to be relied upon in any case, but I do claim for it a controlling power over the engorgement, and hence a prevention of those destructive ulcerations of the throat which are so much and so justly dreaded. In some cases it has seemed to have a salutary effect upon existing diarrhœa as soon as the system was influenced by the remedy.

In one case only was I compelled to discontinue its use because of its constitutional effect. I will not here discuss its *modus operandi*, but simply suggest that the experiments of physiologists in reference to the influence of the organic nerves upon glandular organs, coupled with an experience of thirteen years in its use as a restraining remedy in salivation, and a more limited but somewhat extensive observation of its influence on the mammary gland, seemed to justify, on purely rational and philosophical grounds, the adoption of the course pursued.

During a discussion some months ago in the College of Physicians and Surgeons upon the merits of belladonna treatment in profuse lactation and mammary inflammation, I took the liberty of intimating that perhaps the contradictory results of the observation of members might have obtained from a failure to distinguish between the pathological condition of the gland itself, and that of the areolar structure in relation with it, for if my views of its action be correct, it might not influence directly the latter condition, but would prove potent in the former. Since the results of the application as indicated were reported to the College, some of my friends have adopted the same course, and with the same results, viz., perfect success in every case.

They, therefore, concur with me in attributing such results to something else than mere coincidences on negative effects. They may not be, but the application is a simple, and, under judicious watchfulness, a harmless one, and I will be as free to confess its inertness as I am now anxious to press its claims to attention, so soon as my duty shall seem to indicate such a course.—*Louisville Med. News.*

Topical Applications for Tumors of the Breast.

There are some benign tumors of the breast, resembling cancer, which are frequently extirpated. Dr. Chabrely has published some observations on certain forms of these tumors, that can be cured without an operation, although months of treatment are required, and frequent applications of the following powder:

R—Amyli,	grammes 2.50
Pulv. Iodini,	gramme 0.50 to gramme 1.
Morphiæ muriatis,	“ 0.40

This powder is spread on some wadding, and then kept in contact with the diseased part by means of a suspensory bag.—*Bulletin Gen. de Therapeutique.*

Pulmonary Consumption—A Prescription of Dr. Louis.—The *Druggist* copies the following from *Championier's Journal*: “To support strength, to subdue the cough and promote sleep, to diminish night-sweats, such are the three-fold indications which are met by the following prescription of Mr. Louis, in the case of confirmed phthisis: 1. Take, one hour before the principal meals, one pill of proto-iodide of iron (*Pilules de Blancard.*) After ten days, increase the dose to two pills, and drink immediately afterwards a small tea-cupful of infusion of quassia, made with cold water, and not sweetened; 2. At night, or four hours after the last meal, take a pill of extract of opium from one-sixth to a half grain; 3. If abundant perspiration be present, take at bed-time one or two pills of two and a quarter grains of white agaric; 4. The diet should be generous, but not stimulating.”

EDITORIAL AND MISCELLANEOUS.

AMERICAN MEDICAL ASSOCIATION—DR. MOTT.—We have, as yet, received but fragmentary notices of the proceedings of the meeting just closed at New Haven. We forbear, therefore, any attempt to present our readers with the interesting minutes. There can be no doubt that the anticipations of the most sanguine will be fully gratified in both the interest and pleasure of the present reunion of the Profession. The scientific interest must be greatly enhanced by the carrying out of the plan so ably and judiciously perfected at the last meeting by Dr. J. B. Lindsley, of Nashville. The Association, in consequence of these suggestions, has become at once a truly scientific body for the discussion of high questions in the various departments of medical science, and now, more than ever, will its influence be felt throughout the length and breadth of our country, and more than ever, too, will it command the respect and consideration of scientific men in Europe.

We understand, from our exchanges, that it has been proposed to elect Dr. Valentine Mott, of New York, President of the Association. This is a happy and most appropriate idea. In 1853, at the meeting in the city of New York, the courtesy of the Profession in New York resigned Dr. Mott's claims to his distinguished cotemporary, Dr. Jonathan Knight, of New Haven. The announcement of his election was received with an enthusiasm which was abated, only by the reflection, that the excellent and highly distinguished Dr. Mott, the Nestor of American Surgery, had in all probability lost his last chance of occupying the highest place in the gift of the Profession. Dr. Mott was old then—he is seven years older now, and being spared by an all-wise and gracious Providence to meet his admiring brethren again under favorable circumstances, we earnestly hope that the Association and that New Haven have honored themselves by honoring him, and paid the debt so justly due to Dr. Mott and to New York.

The most youthful, it is true, may die at any moment, but we must make haste, when we would do honor to the *aged*, or lose, perhaps forever, the golden opportunity. *Their* journey is nearly travelled to the end—their battle of life fought almost through—their endurance and their heroism have won our admiration, their benevolence our warm affection—gratitude wells up from the heart but hesitates, unspoken, at

the lips. Speak quickly, speak plainly, for silence may bring a lifelong, self-reproachful regret; even now, "they are gathering their robes about them to depart," and another year or another day may find them far beyond the sound of our voices, when our paltry tokens of honoring respect, and our ungrateful neglects, are alike unheeded and forgotten. Mott and Francis yet remain within the reach of our honoring recognition. May they both still live to preside each, in the national deliberations of their Profession.

VESICO-VAGINAL FISTULA.—One of the most complacent things we have seen lately, is reported in the *Medical Times*, as having occurred recently at a meeting of the Medico-Chirurgical Society. Mr. Syme, of Edinburgh, it appears, read a paper before the Society, in which he claimed to have established some new rule in surgery, the import of which is not fully stated, but which was, however, immediately proved, by Messrs. Erichsen, Adams, Skey and Curling, who were present, to be not new, but known everywhere to belong to Guthrie. But this, remarkable as it may appear, is not what we designate as "very cool." In this paper Mr. Syme took occasion, as is stated, to speak in very disrespectful terms of his colleague in the Edinburgh School, Mr. Simpson, speaking of some of his suggestions as "nonsense," referring to him as an "individual," as one who had "no notion of Surgery," that his practice had no merit, and was only followed because it was supported by the *Times* as "a bait to catch whales."

The *Times* then continues in the following strain: "We believe that Mr. Spencer Wells expressed the very general feeling of the Fellows present when he pointed out that acupressure did in many cases offer great advantages over the ligature—that this mode of suppressing hæmorrhage, might be applied in the case of varicose veins and of aneurism, and that it was another of the gifts for which surgeons ought to be thankful to the great discoverer of chloroform. Jealous detraction of such a man appears very paltry. It is to his labors that the Edinburgh School of Surgery now owes its chief reputation. Mr. Syme has acquired considerable proficiency in the routine training of surgical adolescents, and he has some real merit as a practical surgeon; but his revival of the perinæal section has not tended to enhance the reputation of its performers, and it has certainly proved disastrous to many unfortunate sufferers from stricture. To Simpson, every surgeon is indebted for the discovery of the anæsthetic uses of chloroform, the exposition of the true value of metallic sutures, the simplification of the operation for vesico-vaginal fistula, the operative treatment of coccydynia, and the use

of needles in compressing blood-vessels. Surgery has little else for which to be thankful to Edinburgh since Liston's welcome to a wider field. It was on what Simpson has done that the reputation of the Edinburgh School of Surgery in the present century is founded, and on which it must depend in future histories of our science."

Such language on the part of the *Medical Times*, in behalf of Mr. Simpson, under the contemptuous language of his colleague, is in the main, perhaps, sufficiently appropriate. What is said about chloroform is, to a certain extent, correct, though Mr. Waldie, of Liverpool, it will be remembered, suggested it as a substitute for Sulphuric Ether to Dr. Simpson. His treatment of coeliodynia is *probably* entirely his own, as also his rather dubiously useful suggestions of the needle-substitute for ligatures. But when we come to consider Mr. Simpson's dealings with the operations for the cure of vesico-vaginal fistula, the indignation of every unbiased mind must be excited beyond all measure. Ever since he witnessed the valuable operation of Dr. Bozeman, he has been trying all sorts of devices to make trivial alterations in it, which are far from improvements, in order to gain a sort of second-hand credit in this greatest achievement of modern surgery. He has substituted iron wire for silver wire, claiming that in vesico-vaginal fistula it produces less irritation than silver, while at the same time, he strongly recommends iron wire for the cure of varicocele, because it *does* produce irritation. He has attempted to alter the construction of Bozeman's admirable Button, by making a sort of wire matting far inferior to it, and yet for which he attempts to claim great superiority. It is really amusing to witness the impotent efforts of several English surgeons to cover themselves with the glory of the garment already worn by Sims and Bozeman. English nor French surgeons have not even now, been able to keep up with their rapid improvements in the operation for the cure of vesico-vaginal fistula, much less, to reorganize the operation advantageously, and even less still, to claim credit for its inauguration. To Sims and Bozeman, and to them alone, is due the credit of making it generally available at first, and now practicable in cases heretofore regarded as entirely hopeless.

OUR LIST OF PAYMENTS.—Our subscribers will find the names of all who have paid up to the first of June, published on our cover. We thank them for their punctuality. To those who are still in arrears, their bills have been enclosed in the present number. We are sorry to find that, notwithstanding the enlargement of the *Journal*, which has made it one of the largest, if not the very largest, medical monthly in the United States, so many of our readers have neglected, as yet, to reward

the liberal publisher by the payment of his well-earned dues. We are not constrained to indite this "call to subscribers" from any fear of the ultimate non-payment of their arrears, but only as a *reminder* to those who have inadvertently proserastinated till now. Three dollars is certainly a small amount to pay for over nine hundred and sixty pages, and we know full well that there is not a subscriber on our list who will not be thankful rather than annoyed by being reminded of his account. "Here a little and there a little" withheld or paid over, can effect either the prosperity or the destruction of any enterprise whatever.

Pathological and Practical Observations on Diseases of the Alimentary Canal, Oesophagus, Stomach, Cæcum and Intestines.
By S. O. Habershon, M. D. London, Fellow of the Royal College of Physicians, &c., &c. Blanchard & Lea. Philadelphia. 1860. pp. 312. (For sale by T. Richards & Son, Augusta, Ga.)

Monographs are the only books which thoroughly examine the subjects of which they treat. The one before us, relating to diseases of the alimentary canal, is certainly a valuable addition to the medical literature of the United States. No class of diseases are more constantly presented to the attention of the medical practitioner than those which pertain to some portion of the digestive apparatus. They are as well the objects of interest to the surgeon as to the general practitioner and the manifold obscurity which often attaches to them, renders each new treatise on the subject an object of great interest to every conscientious member of the profession.

Dr. Habershon's work, although not so full nor so clear on all the subjects of which it treats as is desirable, is still as a comprehensive monograph, on a group of diseases of every-day interest to the profession, a most valuable work. The various subjects are presented in sixteen chapters, in which they are discussed with much ability and practical common sense. These are his heads: I. Introduction; II. On Disease of the Oesophagus; III. On Organic Diseases of the Stomach; IV. On Functional Diseases of the Stomach—Hæmatemesis; V. On Diseases of the Duodenum; VI. On Muco-Enteritis and Enteritis; VII. On Strumous Disease of the Alimentary Canal; VIII. On Disease of the Cæcum and appendix Cœci; IX. On Diarrhœa; X. On Colitis and Dysentery; XI. On Typhoid Disease of the Intestine; XII. On Colic; XIII. On Constipation; XIV. On Internal Strangulation—Intussusception—Carcinoma of the Intestine; XV. On Intestinal Worms; XVI. On Perforation of Intestine from without—Abscess in the Abdominal Parietes, extending into the Intestine—Fæcal Abscess.

Throughout the work there are presented the records of over one hundred and sixty cases, which the author makes the basis of his discussion and indoctrination. The work cannot fail to interest and instruct all who may read it.

Lectures on the Diseases of Infancy and Childhood. By Charles West, M. D., author of *Lectures on Diseases of Women*: Fellow of the Royal College of Physicians, &c., &c. Third American Edition from the Fourth Revised and Enlarged London Edition. Blanchard & Lea. Philadelphia. 1860. pp. 630. Octavo. (By T. Richards & Son.)

We have so frequently and so favorably noticed the previous editions of this valuable work, that our commendation now will seem to most of our readers a mere supererrogation. Not so to those who may have purchased and read this last edition of Dr. West's work. It is greatly enlarged and improved. Since 1848, the work has rapidly run through three editions in England, which evinces a popularity seldom enjoyed by any medical writer. The lecture, form of communicating instruction so popular at the present day, is adopted in the present work, and so successfully that Dr. West, in the language of a distinguished Reviewer, "stands second only to Watson, the Macaulay of medicine."

We cannot pretend to give even an analysis of the work, and refer to our former reviews for our opinion. We heartily commend it to all. Even those who have purchased and read the older editions, will not find themselves the losers by replacing them by this last more complete and more valuable new publication.

OBITUARY.

DEATH OF DR. CHARLES W. WEST.—Just as our last pages are going to press, we observe in the newspapers, the announcement of the sudden death of Dr. Charles W. West, of Savannah. We receive the melancholy intelligence of the demise of this distinguished, worthy and useful man with great sorrow. He was a graduate and formerly Professor of Chemistry in the Medical College of Georgia, and more recently he occupied the same chair in the Savannah Medical College. His death will create a void in the Profession in Savannah and in the State at large, not easily to be filled. He was a true-hearted, earnest christian gentleman.

Ophthalmic Hospitals have been established in Italy, at Turin and Rome.

The Arsenic Eaters of Styria.—By CHARLES HEISCH, Lecturer on Chemistry at the Middlesex Hospital.—At the last meeting of the Manchester Philosophical Society I observe that Dr. Roscoe called attention to the arsenic eaters of Styria. Having for the last two years been in communication with the medical men and other residents in the districts where this practice prevails, I shall feel obliged if you will allow me through your journal to make known the facts I have at present collected. The information is derived mainly from Dr. Lorenz, Imperial Professor of Natural History, formerly of Salzburg, from Dr. Carl Arbele, Professor of Anatomy in Salzburg, and Dr. Kottowitz, of Neuhaus, besides several non-medical friends. If human testimony be worth anything, the fact of the existence of arsenic eaters is placed beyond a doubt. Dr. Lorenz, to whom questions were first addressed, at once stated that he was aware of the practice, but added, that it is generally difficult to get hold of individual cases, as the obtaining of arsenic without a doctor's certificate is contrary to law, and those who do so are very anxious to conceal the fact, particularly from medical men and priests. Dr. Lorenz was, however, well acquainted with one gentleman, an arsenic eater, with whom he kindly put me in communication, and to whom I shall refer again more particularly. He also says that he knows arsenic is commonly taken by the peasants in Styria, the Tyrol, and the Salzkammergut, principally by huntsmen and wood-cutters, to improve their wind and prevent fatigue. He gives the following particulars :

The arsenic is taken pure in some warm liquid, as coffee, fasting, beginning with a bit the size of a pin's head, and increasing to that of a pea. The complexion and general appearance are much improved, and the parties using it seldom look so old as they really are, but he has never heard of any case in which it was used to improve personal beauty, though he cannot say that it never is so used. The first dose is always followed by slight symptoms of poisoning, such as burning pain in the stomach and sickness, but not very severe.

Once begun it can only be left off by very gradually diminishing the daily dose, as a sudden cessation causes sickness, burning pains in the stomach, and other symptoms of poisoning, very speedily followed by death.

As a rule, arsenic eaters are very long lived, and are peculiarly exempt from infectious diseases, fevers, &c.; but unless they gradually give up the practice invariably die suddenly at last.

In some arsenic works near Salzburg with which he is acquainted, he says the only men who can stand the work for any time are those who swallow daily doses of arsenic, the fumes, &c., soon killing the others. The director of these works, the gentleman before alluded to, sent me the following particulars of his own case. (This gentleman's name I suppress, as he writes that he does not wish the only thing known about him in England to be the fact that he is an arsenic eater; but if any judicial inquiry should arise which might render positive evidence of arsenic eating necessary, his name and testimony will be forthcoming.)

"At 17 years of age, while studying assaying, I had much to do with arsenic, and was advised by my teacher, M. Bonsch, Professor of Chemistry and Mineralogy at Eisleben, to begin the habit of arsenic eating. I quote the precise words he addressed to me. 'If you wish to continue the study of assaying, and become hereafter superintendent of a factory, more especially of an arsenic factory, in which position there are so few, and which is abandoned by so many, and to preserve yourself from the fumes which injure the lungs of most, if not of all, and to continue to enjoy your customary health and spirits, and to attain a tolerably advanced age, I advise you—nay, it is absolutely necessary, that besides strictly abstaining from spirituous liquors, you should learn to take arsenic; but do not forget when you have attained the age of 50 years gradually to decrease your dose, till from the dose to which you have become accustomed, you return to that which you began, or even less.' I have made trial of my preceptor's prescriptions till now, the 45th year of my age. The dose with which I began, and that which I take at present, I enclose; they are taken once a day, early, in any warm liquid, such as coffee, but not in any spirituous liquors." The doses sent were No. 1, original dose, three grains; No. 2, present dose, twenty-three grains of pure white arsenic in coarse powder. Dr. Arbele says this gentleman's daily dose has been weighed there also, and found as above. Mr. ——— continues: "About an hour after taking my first dose (I took the same quantity daily for three months), there followed slight perspiration with griping pains in the bowels, and after three or four hours a loose evacuation; this was followed by a keen appetite, and a feeling of excitement. With the exception of the pain, the same symptoms follow every increase of the dose. I subjoin as a caution that it is not advisable to begin arsenic eating before the age of twelve or after thirty years." In

reply to my question, if any harm results from either interrupting, or altogether discontinuing the practice, he replies, "Evil consequences only ensue from a long-continued interruption. From circumstances I am often obliged to leave it off for two or three days, and I feel only slight languor and loss of appetite, and I resume taking the arsenic in somewhat smaller doses. On two occasions, at the earliest solicitations of my friends, I attempted entirely to leave off the arsenic. The second time was in January, 1855. I was induced to try it a second time from a belief that my first illness might have arisen from some other cause. On the third day of the second week, after leaving off the dose, I was attacked with faintness, depression of spirits, mental weakness, and a total loss of the little appetite I still had; sleep also entirely deserted me. On the fourth day I had violent palpitation of the heart, accompanied by profuse perspiration. Inflammation of the lungs followed, and I was laid up for nine weeks, the same as on the first occasion of leaving off the arsenic. Had I not been bled I should most likely have died of apoplexy. As a restorative, I resumed the arsenic eating in smaller doses, and with a firm determination never again to be seduced into leaving it off, except as originally directed by my preceptor. The results on both occasions were precisely the same, and death would certainly have ensued had I not resumed arsenic eating." One of the most remarkable points in this narrative is that this gentleman *began* with a dose which we should consider poisonous. This is the only case of which I have been able to obtain such full particulars, but several others have been mentioned to me by those who knew the parties and can vouch for their truth, which I will briefly relate.

One gentleman, besides stating that he is well aware of the existence of the practice, says he is well acquainted with a brewer in Klagenfurth, who has taken daily doses of arsenic for many years. He is now past middle life, but astonishes every one by his fresh juvenile appearance, he is always exhorting other people to follow his example, and says—"See how strong and fresh I am, and what an advantage I have over you all! In times of epidemic fever or cholera, what a fright you are in, while I feel sure of never taking infection."

Dr. Arbele writes—"Mr. Curator Kursinger, (I presume curator of some museum at Salzburg), notwithstanding his long professional work in Lungau and Binzgau, knew only two arsenic eaters—one the gentlemen whose case has just

been related, the other the ranger of the hunting district in Grossarl, named Trauner. This man was at the advanced age of 81, still a keen chamois hunter, and an active climber of mountains; he met his death by a fall from a mountain height, while engaged in his occupation. Mr. Kursinger says he always seemed very healthy, and every evening regularly, after remaining a little too long over his glass, he took a dose of arsenic, which enabled him to get up the next morning perfectly sober and quite bright. Professor Fenzl, of Vienna, was acquainted with this man, and made a statement before some learned society concerning him, a notice of which Mr. Kursinger saw in the *Wiener Zeitung*; but I have not been able to find the statement itself. Mr. Krum, the pharmacist here, tells me that there is in Sturzburg a well known arsenic eater, Mr. Schmid, who now takes daily twelve and sometimes fifteen grains of arsenic. He began taking arsenic from curiosity, and appears very healthy, but always becomes sickly and falls away if he attempts to leave it off. The director of the arsenic factory before alluded to is also said to be very healthy, and not to look so old as 45, which he really is.—*Phar. Jour.*

Medical Colleges and Medical Students.—From indications in various quarters, as well as from the tone of the medical press throughout the country, we are satisfied that a quiet and much to be desired revolution is about to be effected in the Medical Colleges of this country, in reference to the more equal distribution of students among them.

Heretofore, enormously overgrown classes have annually assembled in a few of our large cities, whilst institutions in other localities, equally meritorious, and equally capable of imparting a thorough medical education, have been but thinly attended. This we believe will not be case to so great an extent hereafter.

The stampede among the medical students of Philadelphia last winter, has at least had the effect of directing the attention of Western and Southern young men to the uncalled for neglect of home institutions, and of arousing a strong feeling in favor of home education.

We have heretofore, on more occasions than one, expressed the opinion, that the best interests of the profession would be subserved, and the cause of medical education generally promoted by a more equal distribution of students among our various well organized medical colleges. This belief arises not from a spirit of agrarianism, nor yet from any feeling of

hostility or unkindness towards Eastern schools; but from a firm conviction that moderate size classes can be better instructed, and have far better anatomical and clinical advantages, than where the number in attendance is so great as to crowd the wards of hospitals, however large, and preclude the possibility of frequent dissections. Hence, we should rejoice at the change suggested.

Of course, those who have heretofore enjoyed a monopoly in the business of medical teaching, and who have almost come to regard this monopoly as among their inherited and prescriptive rights, will not sympathize with these views; but we greatly mistake the tone of public sentiment if the voice of the profession will not prove to be decidedly in favor of smaller classes and more equal distribution. Time, however, will show whether or not we have rightly judged in this matter.—*St. Louis Med. & Surgical Journal*.

Unguentum Glycerini.—C. A. Simon, in Berlin, has made a preparation which consists of five parts of glycerine and one part of starch, which he calls unguentum glycerini; it forms a buttery, translucent mass, which can be rubbed in with great facility, and causes the comfortable and pleasant softness to the skin peculiar to the applications of glycerine. This substance is quite inodorous, and chemically indifferent, always of uniform consistency, temperature having no effect upon it, and it preserves these properties for a great while without alteration.

Posner has made an experiment by exposing a loosely covered vessel containing glycerine salve to an intense sun-heat for several weeks without change. This compound has advantages over all other salves: 1st. It is more elegant than any other salve, free from all fat odor, the patient never objecting to the use of it, and never causes, even upon the most sensitive skin, erythema. 2d. It undergoes, neither by itself nor in combination with other substances, any change; it can therefore be stored up in large quantities—not a small consideration in field service, in clinics, and dispensaries. 3d. It contains the additional extracts and soluble salts, not only mechanically mixed with it, but in a dissolved state, rendering absorption very easy. 4th. It never runs over the place of application, in consequence of its uniform consistency. 5th. It can be removed with ease from bandages.—*M. Centr. Z.*, xxviii., 70.

The Number of Children a Woman can Bear.—The question of how many children a healthy woman can bear, during

the child bearing period of her existence, is one of some interest. If a couple live harmoniously together during a long life, and marriage has taken place very early, it is quite possible that as many as 24 may have been born to the state, at intervals reasonably short, and without their coming as twins or triplets. Amongst the poorer classes this regularity is met with, although even amongst them a pretty large number of children are born. On looking over the Register of the St. Pancras Royal Dispensary since the year 1853, six instances occur in which over 16 children were born; thus, two patients, aged 42 and 46 years respectively, were each confined of their seventeenth child; one, aged 39, of her eighteenth; whilst three, aged respectively 39, 40 and 50, were confined of their nineteenth. The last patient, 50 years of age, besides her 19 children, had 4 miscarriages. In most of these cases the births were single, although occasionally twins were born. The greatest age was 50. Dr. Gibb states that, on a careful examination of the Register for many years back, the age of 50 is the highest at which any patient was admitted, and as the same patient did not present herself again, it is probable she ceased to bear children.

If the cessation of the catamenia determines the time at which gestation ceases, then it must occur in some instances as late as 55 or even 60 years; for M. Brierre de Boismont, who determined the critical period of life in 181 females, found that it occurred in 21 between 51 and 55 years, and in 5 between 55 and 60 years.

In considering the number of children a woman can bear, we of course here exclude those cases of multiple births, wherein from 2 to 6 children are born at one time, and which thus will swell the number of children brought into the world by one woman to as many as from 25 to 69.—*Lancet*, Sept. 17.

Fætid Sweating of the Feet.—Mr. Gaffard recommends as a most effectual agent, the applying between the toes of a few drops of the following liquid. An application once a week is usually sufficient, but during summer it may sometimes be required to be made daily: Red oxide of lead 1 part, and the liquor of the subacetate of lead, of the French Codex, (3 parts of acetate, and 1 of lithrage, to 9 of distilled water) 29 parts; bruise the sesquioxide of lead in a porcelain mortar, and add the liquor gradually, directing the bottle to be well shaken whenever it is used.