A Synopsis of Reports made in 1848 to the Parisian Academy of Medicine, by eminent Surgeons, upon Gun-shot wounds.

By Juriah Harriss, M. D., of Augusta, Ga.

Accidents attending gun-shot wounds are so varied in their form and position, and so serious in their nature, as frequently to demand a large amount of anatomical and surgical knowledge to meet them with discriminating promptitude. Many of them require immediate and decisive action on the part of the surgeon, without allowing time to consult authorities or to call in additional counsel. A limb may be heedlessly and rashly removed, or an individual's life be sacrificed, by injudicious delay or indecision. In this day of advancement, when the facilities for medical education and improvement are so multiplied, ignorance is considered a crime by the public, and declared such by law.

It is in consideration of the interest, importance, and many difficulties that accompany the treatment of gun-shot wounds, that I ask the indulgence of the readers of this Journal, while I lay before them the experience and results of the practice of many of the first surgeons of France upon this subject, as reported by them to the Academy of Medicine. If their experience and observations are worth any thing, they must be
valuable; and as their individual reports cannot reach the profession generally in this country, I have presumed to give a synopsis of them. Their observations, owing to recent struggles in France, have been vast, and will probably induce improvements in military surgery, from which civil surgeons may draw useful instruction.

It is to be regretted, that surgeons are so divided as to the mode of treating gun-shot wounds and their consequences. Military surgeons disagree upon nearly every point connected with gun-shot wounds; but the greatest discrepancy exists, between military and civil surgeons, upon the question of immediate amputation and the attempts to preserve the limb.

The questions which elicited most discussion among the reporters to the Academy of Medicine, were—

1st. Should gun-shot wounds be enlarged by incisions so as to reduce them as nearly as possible to simple incised wounds?

2d. Should free incisions be made to extract foreign bodies and fragments of bone, or should these be left to be expelled by suppuration?

3d. Are refrigerants, as ice, suitable applications to gun-shot wounds?

4th. The comparative advantages of immediate and secondary amputations.

1st. Should Gun-shot Wounds be enlarged by Incisions.—M. Larry and the early French military surgeons recommended this practice almost universally and without discrimination. In latter days, says M. Roux, surgeons not only doubt their utility, but presume to reserve them for exceptional cases. M. Roux raised the question of incisions only in relation to simple wounds, where the object is solely to enlarge them for the escape of pus and the debris of sloughing. Incisions for extracting foreign bodies, arresting hemorrhage, &c., he discusses in their proper places. The question, he thinks, does not extend itself to consecutive incisions that are made for the exit of pus, after it is known that it has been formed and burrowed in the soft parts. As to their propriety there can be no doubt; they are warranted and sanctioned by all surgical authority. M. Roux is of the opinion that there are but few cases
in which incision of simple gun-shot wounds is advisable: they seem to him to be but useless complications.

M. Baudens, the chief surgeon to the Military Hospital of Val-de-grace, in Paris, rejects incisions entirely, and believes that no circumstances will warrant them.

Blandin, I think, more philosophically, takes the medium ground between the contending parties. He neither agrees with those who contend that all gun-shot wounds should be incised, nor coincides with those who universally blame this practice. He reserves incisions for those cases in which the thickness and strength of the aponeurosis will probably constrict the part, and by its resistance will not give room for the distension of the tissues, which is so common in inflammation, and which so frequently leads to gangrene. He contends that in such cases they lend no complication to the wound, as the superficial aponeurosis alone act as constrictors, and the incisions are therefore always superficial and not at all serious.

M. Yelpeau, with Blandin, reserves incisions for exceptional cases. He says, afterwards that they have generally, perhaps, no other inconvenience than being useless. M. Jobert is most decidedly opposed to them. It will be perhaps remembered that J. Hunter strenuously objected to them.

2d. Should free incisions be made to extract foreign bodies and fragments of bone, or should these be left to be expelled by suppuration?—The acts of the economy, when a foreign body, such as a ball, has penetrated the tissues, are among the most beautiful processes of nature. The presence of the body causes inflammation in the part, the latter condenses, and an effusion of plastic lymph forms a sac and becomes more or less organised, and thus the tissues accommodate themselves to its volume, weight and presence. This is the case even with some of the most vital organs, such as the lungs. I recollect a case in which a ball entered and buried itself in the brain so deeply that it could not be extracted. There was a large opening in the cranial bones, through which could be seen the distension of cerebral masses at each contraction of the heart and the rise and fall of the brain during the acts of respiration. This patient lived six weeks, and such was his condition at this
time, that the Surgeon, M. Michon, expressed very decided hopes of his recovery. He died suddenly, in attempting to raise himself in bed. There is yet another process of nature in such cases, which has been very graphically described by J. Hunter, and styled by him the "ulcerative process." When a foreign body is deeply imbeded in the soft parts, says this author, it gradually and without constitutional disturbance makes its way near the cutaneous surface and there forms an abscess, at which time it can be easily extracted. They but seldom cause an abscess when deeply imbeded in the soft tissues. The abscess in such cases usually forms in the subcutaneous cellular tissues. The sufferer is not, however, always so fortunate. The foreign body frequently induces intense pain and constitutional derangement, and finally carries the patient to his grave.

M. Roux, with other surgeons, adopts the rule, that if the ball or other body is easily extracted, if the position of the body is well detected and can be reached by a direct passage, without interesting too much the soft parts, its extraction should be attempted, but not otherwise. M. Roux recommends large and free incisions. All surgeons agree that splints of bone should be removed immediately. This is a well established precept.

M. Jobert agrees with Hunter, in considering foreign bodies as almost inoffensive to the tissues, with which they are in contact. Out of 17 foreign bodies in different persons, he extracted only 3, and these were immediately beneath the integuments.

3rd. Are refrigerants, as ice, suitable applications to Gun-shot Wounds?—The object of these applications is to prevent too great inflammatory action and suppuration, which always have a tendency to exhaust the patient and cause constitutional disturbance. M. Roux objects to them, but there can be no doubt, that they are in many cases far preferable to the warm poultices which he usually applies. They not only subdue or prevent excess of inflammation, but are generally more agreeable to the sufferer. Where cold applications are desirable, the roller bandage is objectionable; the more simple the dressing the better. A compress loosely applied so that it can be re-
moved, and moistened at pleasure, and that allows the wound to be inspected without inconvenience to the patient is much preferable. M. Velpeau does not use cold applications in general. His remarks upon this point in his report are excellent and we will give them in full. "The object and effect of the refrigerant treatment in gun-shot wounds are to prevent or cut short the inflammation, but it must be remembered that a certain degree of inflammation is necessary to heal a wound of this nature. The contused layer of tissues cannot be expelled save at this price. Besides the temperature is not modified by ice to the same degree, through the entire thickness of the wounded limb; hence the external part of the wound is cool, while the internal preserves its great heat. This produces an inequality in the inflammation, which is evidently less favorable than a frank and regular phlegmasia. There is thus produced a bastard inflammation, a sanious and badly elaborated discharge, and the wound consequently marches slowly to cicatrization. If there is a flap, if the circulation of the member is already embarrassed, ice will manifestly favor mortification. I have even seen refrigerants produce eschars upon the healthy skin. The only cases in which refrigerants are advisable, are those in which there are violent pains, or a sensation of great heat, without much swelling or inflammation. They may perhaps be advisable in very warm weather." M. Velpeau reasons well, as he always does, even when upon the wrong side. He urges that a certain amount of inflammation is necessary to heal a gun-shot wound. This is very manifest and is quite true in every variety of wounds. I presume, that the same course of reasoning induces him never to attempt to heal a wound of any description by the first intention. He never calculates upon this result, and is always surprised when the wound heals without suppuration.

4th. The comparative advantages of immediate and secondary amputation.—The question of amputation is the most complex and difficult in the whole range of gun-shot wounds. Rules in regard to the character of the wounds requiring amputation, and the time at which operations should be resorted to, are far from being determined. Indeed it would seem, in
reading different authors, that each surgeon lays down his own rules. There can be little doubt, but where an operation is or will probably be necessary that it should be primary or immediate. Secondary amputations have this very decided inconvenience, that the suppuration and sloughing debilitates the patient to an incalculable degree, produces an immense amount of constitutional disturbance and thus lessens the chances of final success. It is unquestionably in accordance with well established rules of surgery, to operate early, when an operation is or will probably be necessary that it should be primary or immediate.

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M. Malgaigne enters more largely upon amputation than the other reporters, but confines himself more particularly to amputations of the thigh. We will translate some of his remarks, as they are very concise. He says that, "it is a very generally accepted doctrine, especially among military surgeons, that fractures of the femur by projectiles from a gun require amputation."

Larrey contended that if the femur be fractured in the lower fourth or even third, the limb may be saved, but if in the centre or superior third, amputation is indispensable.

Ribes expresses himself thus upon this subject: "However serious a gun-shot wound of the superior extremity, the limb may be attempted to be saved, and that without endangering the life of the patient,* but in the inferior extremities, when the bones are broken, the least hesitation may cost the life of the individual." He confirms the doctrine of Larrey in regard to the middle and superior part of the femur, but also extends the rule to the inferior part of the bone. He adds, "the fracture of the inferior part of the bone is about as serious as that of the centre." Upon 4,000 patients, Ribes did not see a single consolidation of the femur, when fractured by projectiles from a gun. At Toulouse there were 47 amputations and 9 died.

Dupuytren, in 1830, (at Hotel Dieu,) had 12 fractures of the femur not operated upon, 5 cured, 7 died.

There is another very important question to be determined, that of immediate or secondary amputation. Guthrie, at the

* This is a practice taught by Guthrie. London Lancet. April, 1852.
Harriss, on Gun-shot Wounds.

[1852.]

battle of New Orleans, performed 45 immediate amputations, 7 died or 1 in 7. Upon 5 secondary amputations 3 died.

M. Malgaigne ends his report by repudiating the doctrine of military surgeons, and says that he never amputates but for urgent necessities, and nearly always attempts to save the limb, believing that there is not so much risk in this attempt as in amputating it.

The following is the result of his practice in 1848.

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14 cured, 11 died.

Hemorrhage.—This subject is discussed by some of the reporters. Hemorrhages are divided into primary and secondary. The primary are rare in gun-shot wounds; 1st. because the yielding and elastic properties of the large vessels allow them to give away to the force when applied to them; and secondly, when they are wounded, the contusion is so great as to cause a coagulation of the blood, which closes the wounded orifice of the artery.

M. Roux states that in all the gun-shot wounds he has had to treat, he has never seen a primary hemorrhage of any importance. When they do occur, he is of the opinion that the bleeding vessel should be immediately secured and ligated at the point of injury. This is a disputed point among surgeons, many believe that the main trunk should be ligated above the point of hemorrhage.*

According to M. Roux, consecutive hemorrhages are more frequent than primary ones. If the soft parts are alone interested, the hemorrhage occurs from the 7th to the 10th day, rarely later. When the bones are fractured they occur later still; from the 12th to the 20th day after the receipt of the

* Guthrie says, that both extremities of the wounded artery should be secured. See London Lancet. February 1851.
injury. The reason of this, he remarks, probably is that the spiculae of bones irritate and keep up the inflammation much longer, and when in the vicinity of blood vessels, increase the chances of the ulceration of their coats, to say nothing of their sharp points penetrating directly the vessels.

Anel and Hunter have proposed to ligate the vessel above the point of hemorrhage. Roux coincides with them, urging that in secondary hemorrhage the difficulties of finding and securing the artery are immensely increased at the seat of injury. He makes a distinction in the treatment of primary and secondary hemorrhage. In the first he prefers applying the ligature at the point of injury and in the latter above.

The generally accepted opinion is that gun-shot, like lacerated wounds, do not bleed, save in exceptional cases. M. Blandin, however, more exact in his observations and minute in his descriptions, affirm that primitive hemorrhage is the rule, for in all of his cases the patients clothes were bloody. Such is also his experience in lacerated wounds. Hemorrhage, according to this surgeon, takes place before nature can provide against it, as she soon does by retraction of the wounded vessels, formation of clots, &c. He admits that large primitive hemorrhages are rare, he having seen but one case that required the immediate ligation of the vessel. May not these small hemorrhages, occurring immediately after the receipt of the injury, be from the veins, and particularly the small veins? I think I have observed in lacerated wounds, that while there was no hemorrhage from the larger vessels, there would be slight bleeding from the venous radicles occurring drop by drop.

M. Blandin prefers, in secondary hemorrhages, to ligate the artery above, and at a distance from the wound, thus adopting the precept of Hunter.

Some of the reporters referred to the question of the relative size of the openings of entrance and exit of a ball. This is an interesting question, and if it could be determined with precision, would be a considerable step gained in a medico-legal point of view. The belief that the opening of exit is larger than that of entrance was universally sustained until 1830, when Dupuytren advanced the contrary opinion.
M. Blandin says, that experience and extensive observation have led him to side with Dupuytren, and advocate his position. He gives the reason why the results should be as he has been induced to believe they are:—"When a ball strikes the body, it encounters the skin supported by the subjacent soft parts, and traverses it immediately without distending or allowing it a play of its elasticity; hence the opening will be about the size of the ball. But, on the contrary, after the ball has traversed the soft parts and comes in contact with the skin upon the opposite side, it pushes it out, distends and finally passes through it, only after having put in play its entire elasticity; and, consequently, the opening ought to retract proportionately to the distension and the elasticity of the integuments."

M. Velpeau thinks that no rule can be established upon this point, inasmuch as the ball is not always round, but sometimes flat, pointed, or irregular, before it comes in contact with the skin. Again: if circular, when it strikes the integuments, it may become flattened or irregular by striking a bone before its exit. It will be easily seen, then, that if a ball enters by its point, and passes out by its base, that the opening of exit will be the larger, and vice versa. The mobility, elasticity, &c., of the parts should be taken into consideration upon this point. He concludes with the statement, that the opening of entrance is generally larger than that of exit, but frequently smaller.

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**ARTICLE XXVI.**

*Application of Cold Water to the Head in Narcotism from Opium.* By E. J. Harris, M. D., of Fayetteville, Ala.

Interchange of medical opinion is one of the principal sources from which the physician derives his knowledge of the treatment of disease; deprive him of this, and all his knowledge must be confined to the narrow sphere of his own observations. There is no physician, of much experience, who has not met with some case or cases, the history of which would be interesting to the profession. Were he to give them publicity, which is certainly his duty, our medical journals would then be filled
with practical matter, and our physicians thereby made acquainted, not only with the various diseases afflicting different sections and localities of our country, but also with their treatment. In a word, in doubtful and difficult cases, we could call to our aid all the skill and experience of the land; thereby inspiring us with confidence and, no doubt, lessening the mortality. It is certainly the duty of every physician who is a friend to suffering humanity, and loves his profession, to contribute his mite—even if he should not be learned in the law, and happen to be in error, it will present an opportunity of having that error corrected and he enlightened—and if right, he will have the satisfaction of knowing, that probably he has done some good.

I do not present to the profession the treatment of Narcotism from opium by cold water to the head, as anything new or original, but for the purpose of calling attention to it as a remedy always at hand and of easy application. In the American Journal of Medical Science, for April, 1852, Dr. J. Young, of Chester, Pennsylvania, reports two cases, the lives of whom were no doubt saved by this simple remedy. The first was that of a child two years old; the mother had given it a portion of "Baker's Specific." The poison had been in its stomach six hours when the doctor saw it—it was as limber as a rag—all muscular contraction had ceased, and it had lost the power to swallow—it could not by any means be aroused. The doctor called for a pitcher of water and poured in one continuous stream on the crown of its head, until a gallon had been used, by the time the child showed signs of muscular contraction; the water was continued a little longer and the child roused up, cried lustily and soon got well.

The second was that of a negro girl aged 18 years, who had been in the habit of taking laudanum for some time past, in increasing doses, for the purpose of producing exhilarating feelings. On this occasion she had bought a two ounce vial full and drank it all at three draughts; in two or three hours she was unconscious, and the muscular system completely released. Cold water poured on the back of her head for five minutes completely restored her, and nothing further was done but a dose of oil to open the bowels. Immediate relief was obtained, and probably life saved in both these cases by cold water alone.
These two cases of doctor Young’s brought forcibly to my recollection three cases which came under my own observa-
tion, and which I treated in the same manner, long before I had heard it recommended by any one else. In the winter of 1844, while I was practicing my profession on the Yazoo River, in Carrol county, Mississippi, I was summoned early one morning to see an aged lady. A profuse diarrhœa, with which she had been attacked the night previous, was fast wasting her little remaining spark of vitality; extremities cold; pulse weak; quick and steady; tongue and mouth dry and parched; thirst great; skin hot and dry over the abdomen. Prescribed, mustard sinapisms to the extremities, with hot brick to the feet; $\frac{1}{4}$ gr. morphine in a little warm brandy toddy, to be repeated every four hours if the bowels required it; a teaspoonful of laudanum in six oz. decoc. kino by enema, if the morphine should fail; mustard sinapisms to the spine to arouse the dormant energies of the spinal nerves. I then left my patient, with a promise to see her again that night. Shortly after my departure, two or three pretty profuse discharges from my patient alarmed her friends: in consequence, they gave the morphine about every hour and a half, at the same time using the enema, so that in four hours after I left she had taken $\frac{4}{5}$ grs. morphine and two teaspoonfuls of laudanum. This arrested the diarrhœa, but it was well nigh at the sacrifice of her life; she became so drowsy that it was with difficulty she could be aroused: the relatives, thinking “death was on her,” sent after me in great haste, as though I could stay the hand of Omnipotence, and ward off at will the “king of terrors.” On my arrival, I found her completely narcotised, lying on her back, eyes half open and turned back; muscular system completely relaxed, so that the under jaw hung down, bathed in a profuse perspiration; breathing deep, and very slow, not more than four or five times in the minute; lips and face somewhat livid and could not arouse her by any means in our power. Noticing the temporal arteries were completely on the strut, and thinking that cold water might produce contraction of these vessels and drive off the superabundant quantity of blood thrown to the head by the opiate, I called for a pitcher of ice water, had her head held off the bed and poured it on in one continuous
slow stream. By the time the contents of the pitcher were ex-
hausted, she spoke and called for water. I gave her coffee as an
anti-somnolent. We thus continued the cold water for half an
hour, when she seemed completely restored. In half an hour
after we stopped the water, she seemed to be sinking again
into her narcotic slumber. The water again relieved her, and by
keeping it up occasionally as the symptoms indicated, she was
permanently relieved in three or four hours after I commenced
its use. I, also, during all this time, gave her frequently hot
coffee to drink, without cream or sugar, at the same time keep-
ing the spine and extremities well burnt with mustard. Some
good probably resulted from the coffee and mustard, but the
principal relief is attributable to the cold water. She had no
more diarrhœa; nothing ailed her but debility, from which she
gradually recovered and got quite well.

In 1845, I was called to see Mrs. S——, aged 30, married
10 years; no children; suffered much with dysmenorrhœa; tall
and spare made; scrofulous diathesis, subject at times to cramp
colic. On the morning of my visit, she had had a more violent
attack than usual of this painful affection, for which she had
taken something over a teaspoonful of very strong laudanum;
she was talking wild and incoherent; had a vacant expression;
tossing her head from one side to the other; throwing her
hands about—in a word, she was perfectly deranged. I applied
the cold water to her head and in fifteen minutes she was per-
perfectly restored to consciousness—the water was re-applied
whenever she began to "feel strange," as she expressed it, and
always with the same happy result, until the opiate influence
wore off, when she was as well as ever.

In 1849, in this place, Fayetteville, Fayette county, Alabama,
Miss M. W——, in her 18th year, was attacked with dysentery.
I prescribed for her pills composed each of 1 gr. opium, 2 gr.
camphor, ½ gr. calomel, 1 gr. ipecac: one to be taken every
four hours. This was early in the morning. In two hours after
taking the first pill she had a mucous discharge from her bowels,
and being much pained she took another. In one hour after
this, she took a third, and feeling no better in two hours more,
she took two others, and continued to take them every hour or
two until by four o'clock in the evening she had taken eight.
At six I was summoned to her bed-side, when I found her perfectly distracted. The pills had seemed to exert no influence until five o'clock, when they took effect and seemed to exert as powerful an influence as though all had been taken at once. She remained in this frenzy state about an hour, when she sunk into a deep stupor, from which nothing could arouse her but cold water, and whenever this was discontinued 15 or 20 minutes, she would again become comatose. It was kept up through the night, and by next morning she was as well as ever, except weakness.

In all these cases the great beverage of nature evidently relieved much suffering and probably saved life. I have noticed in all the cases of narcotism from opium that the patients got well of their dysentery or diarrhoea immediately after their recovery from the narcotism. Does the opium produce a change in the determination of the fluids?

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**ARTICLE XXVII.**

*On the Cutaneous Eruption induced by the internal use of Tartar Emetic.* By P. M. Kollock, M. D., of Savannah.

In the June No. of the Southern Medical and Surgical Journal, I read the description of two cases, by John S. Wilson, M. D., of Airmount, Ala., of a "Specific Cutaneous Eruption produced by the internal use of Tartar Emetic." Being thus reminded of a similar case, which occurred in my practice some years since, and, like the author of the communication, never having seen any notice of such effects of the drug in question in books, I send you a copy of the note which I made of the case at the time of its occurrence.

September 1, 1848. Saw Mrs. C.'s little girl, about three years old. Incipient laryngitis—to which disease there is a strong epidemic tendency at this time in the city. Her mother had given her castor oil previous to my being consulted. The disease proved extremely obstinate, but yielded to treatment, consisting of vomiting with "Turpeth Mineral," 2 grs., repeated at intervals of 15 minutes (two doses producing vomiting); purging with calomel; small doses of calomel and ipecac; and,
lastly, a solution of tart. antim. gr. i. to water ʒ ʃ i., gtt. 10 every two hours. Of this last, she took in all ʒ ʃ s. of the solution, which broke up the remains of the disease. Two blisters had been applied; one on sternum, the other on dorsal spine. I intended this last to be confined to nucha; but owing to her restlessness, its effects had extended over a much larger space. She seemed, however, to be entirely relieved of the catarrhal disease, and to have nothing more to contend with than the irritation produced by the remedies. A little febrile excitement continued. At this time an eruption, resembling prickly heat, broke out all over the body; the blistered surfaces became very much inflamed, and seemed very much disposed to ulcerate, although I was assured by the mother that the blisters had not been applied more than two hours. About the 6th or 7th, as the fever seemed to exhibit a paroxysmal tendency, I commenced giving sulph. quinine. She took one grain, when the stomach became exceedingly irritable and incapable of retaining any thing whatever. The eruption on the skin became pustular, and extended all over the body, and the blistered surfaces continued to look badly in spite of the free use of chlor. sod. She died on the morning of the 9th, and the eruption on the trunk assumed a purple color. Previous to death she bled from the nose.

ARTICLE XXVIII.
Catalepsy Relieved by Ether Inhalation. By John S. Wilson, M. D., of Air Mount, Alabama., (formerly of Georgia.)

Since the introduction of Ether and Chlorform, the various medical journals have contained numerous reports of their successful use in almost every variety of nervous and spasmodic disease; but never having seen a case of that rare disease, Catalepsy, included in any of those reports, I have concluded that the following case might not be uninteresting to the profession, and that it might suggest a valuable resource in a form of nervous disorders that is so unusual and so little noticed by writers as to produce some embarrassment in its treatment.

Case. On the 6th of March last, I visited a negro woman,
the property of Mr. W., for the purpose of deciding as to her "soundness"—Mr. W. having recently purchased her. I found on examination per vaginam, that her uterus was prolapsed, and that it was fixed in the pelvis, possessing but slight mobility—it seemed moreover to be somewhat indurated. On the 9th I was called again, about 9 o'clock, A. M., when I learned from her owner that he had called her early that morning, but receiving no answer, he went to her, and found her speechless and motionless. He could not tell how long she had been in that condition.

When I saw her, she presented the following symptoms: Pulse slow and full—respiration the same, and without stertor—muscles rigid, but no convulsive movements—except a slight twitching of the muscles of the eyes and lips. Sensation was almost wholly abolished; none being manifested on pinching and pulling the skin, and very little on the application of a live fire-coal—the arms retained any position in which they were placed, as in the mesmeric state.

Treatment. I first abstracted a small quantity of blood, for the purpose of removing or preventing cerebral congestion; I then used the Sulph. Ether freely, by inhalation, with the view of resolving the tonic rigidity of the muscles.

After continuing the remedy about 20 or 30 minutes, and when she had inhaled near 2 ozs, the muscles became gradually relaxed: the Ether was then discontinued, and soon afterwards consciousness returned: she then sat up and looked about with a bewildered expression; and on being questioned as to the manner of her attack and her previous condition, she could not give any satisfactory answers, expressing entire ignorance in reference to the experiments made to test her sensibility, while in the cataleptic state, and also, with respect to the bleeding. Up to this date she has had no other attack. My object in reporting this case having been already mentioned, it is needless to say more:—I would merely observe that every one who has seen a subject in the "mesmeric state," will, on seeing a case of catalepsy, be strongly impressed by the remarkable analogy existing between those two singular phenomena of the nervous system.
PART II.

Eclectic Department.

On Healthy and Morbid Menstruation. By J. Henry Ben-
nett, M. D., late Physician-Accoucheur to the Western 
General Dispensary, etc.

[Continued from Page 417.]

Amenorrhœa.—By amenorrhœa is meant the absence, when 
physiologically due, or the sanguineous discharge by which 
menstruation is externally manifested. The menstrual function 
consisting, as we have seen, not merely in the periodical secre-
tion of blood from the interior of the uterine cavity, but 
also in the maturation and elimination of ova from the ovary, 
it is necessary to make the above distinction. Ova may, by 
exception, be matured and evolved from the ovary in the 
human female, as well as in the lower animals, without any 
sanguineous discharge taking place, as is evidenced by the re-
peatedly recorded facts of the conception of young females who 
have never menstruated, and by the pregnancies which occur 
in women who are nursing, without menstruation having return-
ed. Thus, the external excretion of blood can no longer, 
in our present state of knowledge, be considered as comprising 
the entire function, although, as the rule, its manifestation is the 
evidence of the existence of those all-important ovarian phe-
nomena with which it is generally connected.

Amenorrhœa may be studied under two principal forms: in 
the first which we will call "constitutional amenorrhœa," men-
struation has never taken place; in the second, which may be 
termed "accidental amenorrhœa," it has manifested itself, but 
has been suddenly or gradually suppressed.

Constitutional Amenorrhœa.—In order to appreciate this, the 
first form of amenorrhœa, we must recall to mind some of the 
principal facts connected with the physiology of menstruation 
noticed in a former paper. Thus we must recollect, that the 
first appearance of this function follows no strict rule, oscillating 
in health, between the ages of eleven and nineteen or twenty, 
an interval of nine or ten years; and that the average age of 
fourteen or fifteen is obtained by the inclusion of the exception-
ally extreme cases. We must also bear in mind that, apart 
from constitutional and family peculiarities, the acceleration or 
delay of menstruation appears to be more the result of favour-
able or unfavourable hygienic conditions than of climate, as 
was formerly taught and believed.

Such being the physiological conditions of menstruation, it 
is evident that its non-appearance after the average age of four-
teen or fifteen is not to be considered a morbid state, as long as
the delay is unaccompanied by any symptom of disease or ill-
health. Thus we occasionally meet with young females, non-
menstruated, of the age of seventeen or eighteen, or even older,
whose frame is well developed and healthy, and who complain
of no ailment beyond an occasional headache or backache, and
sometimes not even of that. With them, menstruation is mere-
ly late in its manifestation: they are not suffering from amenor-
rhoea.

In a considerable proportion, however, of the young females
who reach the age of eighteen or more without being menstrua-
ted, the delay is either attended with great discomfort and dis-
tress, apart from any physical deficiency; or is connected with
defective general and sexual development; or is occasioned by
some local or general morbid condition; or is prevented by
some physical impediment. Each of these states may be said
to constitute a distinct form of amenorrhœa.

In those who belong to the first category, we find a well-
formed frame, properly developed breasts, as also the other ex-
ternal signs of puberty; but the patient suffers from constant head-
ache and flushing of the face, severe pains in the back and loins,
extending to the lower part of the abdomen and down the thighs,
and often form a leucorrhœal discharge. It is evident that the
changes that precede and accompany menstruation, both in the
internal and external organs of generation, have taken place,
but that the function has a local difficulty in establishing itself:
thence an irregular state of circulation, determination of blood
to the head and face, congestion of the uterus, vagina, and
ovaries, with consequent pain in the uterine regions, and the
leucorrhœal discharge. This state is not unfrequently connec-
ted with a plethoric condition of the system, and may last from
a few months to several years. The advent of the menstrual hæmorrhage generally relieves the patient at once, although she
may still continue to suffer at times as above described, if
menstruation fails to establish itself regularly.

The second division comprises non-menstruated females,
who, although they have attained, or even passed, the ordinary
age of puberty, do not present that development of the mam-
mæ and other external organs of generation, by which this
period of life is usually characterized. They remain thin,
angular, and flat-chested, and retain all the characteristics of
girlhood, mental as well as bodily. It would appear as if in
these cases the ovaries remained dormant, and as if the general
stimulation which their progressive maturation imparts to the
economy were not supplied.

We have seen that, physiologically, menstruation is retarded
by bad living and unfavourable hygienic conditions; whereas, its advent is accelerated by good living and favourable hygienic conditions. From this fact alone, we might conclude that all diseases that debilitate the economy would have a tendency to retard the menstrual flux; and such is really the case. Phthisis, scrofula, chlorosis, fevers, indeed all diseases that weaken, produce this effect. None, however, more frequently occasion amenorrhœa than chlorosis, a disease of the blood, in which the solid constituents of the vital fluid are diminished, and the fluid or serous increased. The delay or suppression of the menses, under the influence of this malady, is so prominent a feature in its history, that many writers have very erroneously connected it with the uterus, and have described it as a uterine disease. In reality, the state of the menses is a mere symptom of the anaemia and debility occasioned by the morbid state of the blood. It is only in a few exceptional cases that I have found chlorosis connected with actual uterine disease.

Lastly, the menstrual secretion may have taken place, but the excretion may never have occurred, owing to congenital or accidental closure of the genital passages. The os uteri, the vagina, and the hymen, may be all closed together, or they may be each closed separately. If the closure exists at the os uteri, the menstrual fluid accumulates in the cavity of the uterus, and gradually develops it, so that the enlarged organ rises out of the pelvis, and appears above the pubis, simulating pregnancy. If it is the lower part of the vagina or the hymen that is imperfect, the menstrual fluid first accumulates in the vagina, which it distends to an extreme degree before it enlarges the uterine cavity. If the fluid collection reaches the hymen, it generally pushes it forward, and forms a tumour, which appears between the labia. This distention of the internal uterine organs is generally attended with great suffering, both local and general, and is marked by periodical exacerbations, corresponding to the monthly periods.

Accidental Amenorrhœa.—The second class of cases comprises those in which menstruation has existed, but has been suddenly or gradually suppressed.

The sudden suppression of menstruation is generally the result of exposure of the body, and especially of the feet, to cold or to the wet; of a mental shock, from fear, grief, pain, or anxiety, &c.; or of a sudden attack of disease. It not unfrequently occurs, for a time, as a result of a sea voyage or of change of climate, without giving rise to much distress, and without requiring medical treatment, the return taking place spontaneously. The sudden suppression of the menses, under the influence of the other causes mentioned, is often followed by the
development of inflammation in the uterus, ovaries, or lateral ligaments. Even when suddenly suppressed, however, the suppression may be unattended with any unfavorable symptom beyond slight pain in the back and hypogastrium, flushing, and headache. Amenorrhœa, thus suddenly induced, seldom extends over more than one, two or three periods, under proper management, although the suspension may be much more lengthened, and is sometimes indefinite.

A gradual suspension of menstruation is sometimes observed in those females in whom the function has set in late and with difficulty, without there being any evident cause, general or local. It would appear as if the ovarian and sexual vitality were anomalously low; and after making one or more efforts, at irregular periods to establish itself, menstruation ceases, not to return, except under the influence of treatment. When this occurs, the health is scarcely ever good, the constitution generally remaining delicate and weak.

In such cases, however, we are warranted in suspecting ovarian or uterine disease. Generally speaking, in the absence of the chlorotic or tubercular cachexia, the gradual suppression of the menses is connected with such disease. The development of the various tumours to which the ovaries are liable, frequently entails amenorrhœa; and the chronic inflammatory affections which are so often observed in the neck and body of the uterus, may have the same result. Menstruation first becomes irregular, being delayed days, weeks or months, and then ceases completely. I have often been consulted for amenorrhœa by females who were labouring under these forms of disease and in whom it had evidently come on subsequently to the uterine affection.

When menstruation does not return, the uterus, and especially its cervix, even in the absence of positive disease, appear sometimes to be the seat of a kind of permanent congestive irritation, which ultimately may bring on hypertrophy and induration of the latter region. I have seen the cervix become thus enlarged, under my eyes, as it were, in the course of four or five years, although there was never any really tangible disease during that time. In one instance, that of a married woman, now twenty-eight, the menses, which from the first had been irregular, stopped immediately after marriage at twenty-three. Soon afterwards she began to suffer from uterine symptoms, and when she consulted me, I found the cervix inflamed and ulcerated, but not hypertrophied. The disease was soon subdued, but the menses have only returned once or twice. The uterus has appeared to remain in a state of semi-congestion, and the cervix has gradually enlarged. This female remains delicate
although in very tolerable health, free from pain, and not suffering under any other morbid state.

Suppressed menstruation, either sudden or gradual, is not unfrequently followed, even when uterine inflammation is not developed by serious general symptoms, obstinate vomiting, severe hysteria, and sometimes by the establishment in the economy of a supplementary hæmorrhage, to which the name of "vicarious menstruation" has been given. The mucous membrane of the nasal fossæ, of the lungs, stomach, and bowels, are the most ordinary seat of this hæmorrhage, which takes place in some instances with the regularity of normal menstruation, and in others at irregular periods. All the other mucous membranes, as also the skin itself in various regions, have been the seat of vicarious menstruation. It has not unfrequently been observed from the surface of wounds or sores. Such being the case, it is evident that hæmorrhage occurring from any of these sources in a young female in whom the menses are suppressed has not that importance which it would have under other circumstances. The hæmorrhage may be, and probably is, merely an effort of nature to establish a supplementary issue for the menstrual secretion, which has not taken place.

Treatment.—The rules which should guide the practitioner in the treatment of amenorrhœa must be drawn from an attentive consideration of the causes by which it is occasioned, and must vary as they vary. In a general point of view, however, the indications are, 1st, to give tone to the economy if tone be deficient, and to remove general or local disease if such disease be present; 2ndly, to favour and promote, within reasonable and judicious limits, the menstrual function. We will now briefly see these indications are best carried out in the various forms of amenorrhœa above described.

When the advent of the menstrual flux is retarded in well-developed young females, who evidently suffer, both generally and locally, from the delay, a little judicious management will often determine its appearance. The state of the health should first be carefully scrutinized, and any general or functional derangement remedied by proper treatment. If the patient is weak and delicate, the various preparations of iron, with a generous dietary, are often of great use. If on the contrary, she is plethoric, and subject to headache and flushing of the face, a light diet, gentle exercise, and alterative or saline medicines are indicated. A young female suffering in this way is better at home, under the eye of a devoted and attentive mother, should she be fortunate enough to possess such a parent, than in a public school, where the rigid discipline usually enforced renders it difficult to pay that attention to her state which is
requires. Under the influence of these general means, the men-
strual function usually manifests itself, and becomes regularized
in the course of a few months. Should they prove inefficient,
slight periodical stimulation of the uterine system should be
resorted to. The plan I most frequently adopt is, the applica-
tion of large mustard poultices to the breasts and inner and
upper parts of the thighs, alternately, night and morning, during
five or six days, every four weeks. The mustard poultices
should be allowed to remain on until the skin reddens and begins
to feel painful, but not long enough to blister it, as that would
prevent their being replaced the following day. The feet may
also be put in hot water night and morning, for a few minutes,
and if there is any pain in the hypogastric or ovarian regions,
large warm linseed poultices, sprinkled over with laudanum,
may not only afford relief, but also promote the menstrual
excretion. When the symptoms of local congestion are very
marked, the application to the vulva of a few leeches every
month, or about the fifth day of the local treatment, may be of
great assistance. The commencement of this local treatment
should be made to coincide with the menstrual nisus, when it
manifests itself periodically. When it does not, a certain date
should be taken, and adhered to at the interval stated—that is,
every twenty-eight days. In such cases the medicines known
as emmenagogues, which exercise a special influence over the
uterus, are scarcely in my opinion, admissible, the object being
to gently promote the natural function, and not to violently
stimulate, and probably irritate, the uterine organs.

In amenorrhœa connected with deficient uterine and bodily
development, the local treatment should be conducted on the
same principles only it generally requires to be carried out
more perseveringly and for a greater length of time. In addition
to the means mentioned, I have also derived great benefit from
electricity, the electric current being carried through the pelvis
from the hypogastric to the sacro-lumbar region, for an hour
night and morning, during the week that local means are ressort-
et to. In these cases it is evident that the non-development of
the body is often in a great measure the result of the dormant
condition of the uterine organs, inasmuch as I have repeatedly
succeeded in rousing them to action by the local treatment
above detailed, when the most judicious and perseveringly
general treatment had failed. In these cases I have invariably
seen the bodily structures subsequently develope themselves
with great rapidity. At the same time, the knowledge of this
fact must not for a moment prevent our employing every possi-
ble means of invigorating the general health, of vitalizing econo-
my, and of promoting the regular play of the various functions.
After removing any morbid functional condition which a careful scrutiny may detect, recourse should be had to the mineral and vegetable tonics, and especially to ferruginous preparations, to which should be added a generous diet, moderate food, or horseback exercise, cold bathing or sponging, early hours for retiring and rising, and residence in the country, if possible.

When amenorrhœa can be traced to a debilitating disease, such as chlorosis, phthisis, scrofula, &c., the best treatment is the treatment of the disease to which it is referrible. Thus, in chlorosis, the menstrual flux gradually diminishes, and may finally cease altogether under the influence of the progressive deterioration of the blood, without there being any uterine disease or any other uterine symptom than the scantiness and final disappearance of the secretion. As under appropriate general treatment the blood becomes healthy, menstruation returns or again becomes gradually more and more normal, without any local treatment being necessary in the immense majority of cases. The same may be said of scrofulous and other forms of constitutional debility. In pulmonary phthisis, the falling off and final disappearance of menstruation is a symptom of much more serious import, as it is generally connected with the more advanced stages of the disease, and with an amount of tubercular deposit, and of consequent marasmus, through defective nutrition, which renders the chance of a recovery very problematical.

Amenorrhœa from physical obstacles can only be remedied by surgical means. If the hymen is imperforate, or the lips of the vulva are adherent, and the menses have collected behind, a crucial incision in the center of the bulging hymen, or vulvar protuberation, in all that is required. Care, however, should be taken, once the menstrual fluid has been evacuated, that the divided surfaces do not unite and cicatrize. This is to be prevented by the use of small sponge or cotton tents for a few days, or by the application of the nitrate of silver to the edges of the incisions—a more painful but equally efficacious process. When the vagina is partially or wholly absent or closed, either congenital or by adhesion from accidental causes, the case is a much more serious one, and more difficult to remedy. If there is merely adhesion of the walls of the vagina, this adhesion can generally be removed by the dilatation of the vagina, coupled with the gradual and careful division of the adherent surfaces. When the vagina is partially or entirely absent, the symptoms produced by the retention and accumulation of the menses in the uterus may be sufficiently serious to render it imperative to attempt to form an artificial passage by surgical means, of the distended uterus. In such cases the difficulty and risk of the
operation depends on the distance that separates the vaginal cul-de-sac or the imperforate vulva from the uterus, the operator having to make his way between the rectum and the bladder. Considerable assistance in diagnosis is derived from a careful rectal examination. It is of great importance to find a vent for these uterine accumulations of menstrual fluid, as, in addition to the suffering endured, there is positive danger to life. Cases are on record in which the distention of the uterus extended to the Fallopian tubes, and in which death occurred from the peritonitis occasioned by their rupture.

Occlusion of the os uteri, as a congenital occurrence, is rare; but since I first recommended the use of potassa cum calce as a last resource in obstinate inflammatory disease of the cervical canal, I have seen several cases in which its use had been followed by all but complete occlusion, and by partial retention of the menses, or at least their difficult excretion. This was evidently owing to the want of due caution at the time of application and during the period of healing afterwards. The tendency of the tissues thus treated to contract being very great, it should be counteracted, if necessary, by the occasional use of wax bougies, until the process of repair has been fully accomplished. The possibility of this accident occurring through the want of caution of the operator, does not in the least invalidate the utility of the remedy as an exceptional and ultimate one. I have generally, but not always, found this form of occlusion easy to remove by progressive dilation. Should occlusion of the os uteri exist congenitally, once recognised it is easily remedied by a slight incision in the region of the os, and by subsequent dilatation.

When menstruation is accidently arrested or prevented, by exposure to cold and wet, by illness, or by any other of the causes enumerated, the amenorrhoea is seldom of long duration. The condition in which it originated having ceased to obtain, the function generally rights itself; the only treatment usually required being that which is most calculated to restore the general health of the patient. In some cases it may also be necessary to resort to the local means already detailed, when menstruation appears to have a difficulty in re-establishing itself.

The catamenial function appears to be more especially liable to arrest from accidental temporary influences in those females who present the low degree of sexual vitality to which allusion has been made in the first part of this paper, and with whom menstruation appears late and with difficulty. In such constitutions, indeed, it sometimes stops for many months, or even permanently, if no treatment be resorted to, without any apparent cause. Under the influence of decided general and local
treatment, the menses will often return for a time, but flag and cease as soon as the treatment is suspended. If there is no positive disease of the uterus or ovaries, the emmenagogues, such as ergot of rye, savine, &c., may be cautiously tried. I have known also the married state, especially if followed by conception, produce a complete change in the functional activity of the uterine system, and menstruation become regular and natural. It is in these cases that the application of the nitrate of silver to the cavity of the uterus, or the scarification of its mucous surfaces, has been proposed. I must confess, however, that I do not think we are warranted in thus interfering with so delicate and sensitive a region of the uterus for such a purpose. In the unmarried female the application of leeches to the vulva, and in the married to the neck of the uterus, answers every purpose without being open to the same objection.

The development of inflammatory disease in the neck or body of the uterus, or in the ovaries, and of cystic and scrofulous tumours in the ovaries, is one of the most frequent causes of amenorrhoea in those in whom the function has once been fairly established, and especially of partial amenorrhoea. When such lesions exist, they generally give rise to other symptoms which an attentive and well informed observer may easily recognize. This remark, however, applies more to the uterus than to the ovaries, for important morbid changes are not frequently found after death in the latter organs, which, during life, have given little other evidence of their existence than the modification or arrest of the catamenial functions.

In all these cases, the amenorrhoea is merely a symptom of the ovarian or uterine disease. The latter is the condition to be treated, the only indication the amenorrhoea itself supplies being the advisability of having resource to such local means as are calculated to promote menstruation, whenever nature appears to be making the least effort to establish the menstrual flux.

In vicarious menstruation, our first effort ought to be directed to the restoration of the integrity of the uterine organs, if it be impaired. We should then, by all the means enumerated, attempt to divert the molimen haemorrhagicum of menstruation from its abnormal to its normal seat. The most important of these means is the abstraction of blood from the vulva or cervix uteri, which should be resorted to every month, a day or two before the vicarious menstruation is expected, and may be treated after it has begun, should the strength of the patient admit of such a step. By this treatment the menstrual nisus may be diverted into its natural channel; whereas, any attempt to stop the morbid haemorrhage, by means, applied directly to the organ from which it takes place, might be productive of mischief to the system at large.
On the Chlorosis of Pregnancy. By M. Cazeaux.

M. Cazeaux recently read, at the Paris Medical Society, a paper, the object of which was to show "that hydmarkia or serous polyæmia is the most frequent cause of the functional disturbances in advanced pregnancy usually attributed to plethora." The analysis of the blood of pregnant women exhibits a diminution of globules and an increase of water, differing indeed only from that of chlorosis by containing an increased quantity of fibrine. The quantity of fibrine is far less than in phlegmon, and the buff it gives rise to has been often observed in the chlorotic. The functional disturbances of pregnancy resemble those of chlorosis, many of these indeed being common to plethora and chlorosis. The effect of treatment confirms this view of their nature; for while here, as in chlorosis, depletion may prove a temporary and fallacious means of relieving serous plethora, it is from the employment of animal food and iron that real benefit is obtained; and this even in cases wherein local bleeding may be deemed advisable. M. Cazeaux does not, however, deny that true sanguineous plethora may be met with occasionally, and especially in the early months.

During the animated discussion which followed, M. Duparcque admitted that pregnancy may occasionally induce a condition analogous to chlorosis; but he referred to the marked power of venesection in arresting threatened abortion from active uterine congestion; and believes that the practice followed by our predecessors of bleeding at the middle of pregnancy, on account of the then active disposition to abortion, may often be advantageously imitated. A similar plethoric determination takes place at the seventh and ninth months; and when the mother does not suffer ill effects from this, it may produce cerebral apoplexy, or that state of general congestion termed asphyxia, in the infant—the plethora killing the child, though it spared the mother, when precautionary venesection had been neglected. Puerperal convulsions might often be prevented, if bleeding were instituted for the plethoric condition in which they so frequently originate. In judging of the presence of plethora, too much weight has been attached to the highly-coloured condition of the skin, especially that of the face and its adjoining mucous membranes, and to the projection of the veins. But it is very common to see persons who are constantly plethoric, and who are liable to phlegmasia, congestions, and hæmorrhages, exhibiting so colourless a condition of the tissues, that from their mere aspect, we might believe them subjects of chlorosis. Such persons bear losses of blood, which
those of a higher colour and apparently eminently sanguineous temperament, could not endure.

M. Jacquemier stated that he had examined the blood of about 200 women, in the eighth and ninth months of pregnancy, most of them being persons from the country. The so-called inflammatory crust was not met with so often as is usually supposed; but occurred much oftener in winter (when many of the women suffered from bronchitis and influenza) than in the summer; it being met with at this latter period only once in six or even in nine cases. Most frequently when the buff did exist, the clot was pretty large and softish, and the serum was not in excess; the hard, retracted clot, covered with a thick buff, and bathed in a large quantity of serum, as seen in inflammation and chlorosis, being rarely met with. According to his observations, the excess of fibrine, whether absolute or relative to the diminution of globules, is not considerable enough to habitually give rise to the production of the inflammatory crust. The diminution of globules is infinitely greater in a chlorotic person than in a pregnant woman; and all the analogy that can be traced between the two conditions may be stated in the fact, that a considerable number of women, after the middle period of pregnancy, exhibit the commencement of anaemia. Clinical observation does not favour the view of the identity of the two conditions. Among many hundreds of women auscultated at the Maternite, during the last two months of pregnancy, M. Jacquemier only met with the carotid souffle in two or three.—[Rev. Médical. Medico-Chir. Review.

On the Management of Women after the Cessation of Menstruation. By Dr. E. J. Tilt.

[The superabundance of blood and nervous energy after the cessation of the menstrual flow may be safely and effectually kept down by the habitual use of small doses of purgatives; and, as they may have to be continued for some length of time, it is best to consult the patient as to what medicine would be best tolerated. The purgative to be used depends upon the constitution of the patient. Perhaps the best is some mild purgative which has been found to agree with the patient. Dr. Tilt continues:]

I frequently prescribe the soap-and-aloes pill of the Edinburgh Pharmacopœia, ordering five or ten grains to be taken with the first mouthful of food at dinner. Hemorrhoidal affections I have never seen caused by this frequent use of aloe, but I have seen them relieved by it; and as I read in Giacomini's 'Treatise of Materia Medica' my experience on this point
Leucocythemia.

On Leucocythemia. By Professor Bennett, Edinburgh.

[In the first article of our last volume (vol. 23) the reader will find a very interesting paper on the subject of white cell blood (Leucocythemia,) which is a proper introduction to the present
one. Prof. Bennett has established the existence in the blood of an excess of the colourless corpuscles; a condition highly important to the pathologist and physiologist. He says:

The blood may be loaded with a multitude of cells, exactly resembling those of pus; that such blood may circulate in the human subject for months, or even years, without destruction to life, and that this condition is always associated with disease in those organs, the functions of which have hitherto been involved in the greatest obscurity, constitute facts which seem calculated to exercise an important influence on many views that have been long agitated in science. The constitution of the blood itself; the origin of its morphological elements and chemical proximate principles; the importance of the lymphatic system; the functions of the spleen and other blood glands; the nature of purulent infection, and other diseases of the blood, may be expected to be more or less elucidated by a study of the accompanying phenomena, causes, and results, of leucocytishemia. With a view, then, of stating as succinctly as possible the conclusions which may be legitimately derived from the thirty-five cases previously recorded, I shall divide this part of the inquiry into several sections, in which all these important topics will be shortly considered.

1. Symptoms observed in individuals affected with Leucocytishemia.—The symptoms have been very carefully observed in several of the cases recorded in the first part of this memoir, but we have great difficulty in referring any of them to the mere alteration in the blood. Several of those which were most constant and best marked in advanced cases, were apparently caused by the increased size of the spleen or liver, as they have been seen to occur in other cases where these organs have been enlarged, without the occurrence of leucocytishemia. No doubt the peculiar change in the blood of which we are treating has been discovered in individuals affected with enlarged spleen; but this may arise from the circumstance, that the circulating fluid has been more frequently examined in persons laboring under that complication. When leucocytishemia, however, is more generally studied, it will very probably be found associated with enlargement in other organs, especially of the thyroid, thymus, supra-renal capsules, and lymphatic glands. Hence, I am persuaded, no systematic history of the symptoms connected with this morbid state can be given in the present state of our knowledge; and I shall therefore merely content myself with an analysis of those observed in the cases recorded.

Of the thirty-five cases which are given in the preceding pages, leucocytishemia was demonstrated to exist, by careful
microscopic examination, in twenty-five. The facts presented by these may be afterwards compared with those offered by such cases as were doubtful, or by those in which, associated with large spleen, it was proved that the blood was quite healthy.

Sex.—Of the twenty-five cases, sixteen occurred in males and nine in females.

Age.—The youngest case in which leucocythemia was observed was in a girl aged 9, and the oldest in a woman aged 69 years. In two cases the ages are not stated, but in the remaining twenty-three they may be arranged as follows: Under 10 years, one case; between 10 and 20, two cases; between 20 and 30, three cases; between 30 and 40, seven cases; between 40 and 50, four cases; between 50 and 60, three cases; and between 60 and 70, three cases. So far as this analysis goes, the diseases would appear to be most common in adult life, and more frequent in advanced age than in youth.

Abdominal swelling.—Greater or less swelling of the abdomen was present in twenty out of the twenty-five cases,—evidently dependent, in the majority of these, on enlargement of the spleen and liver, singly or united. In five cases ascites was also present. In several of the cases there was more or less abdominal pain or tenderness, while in a few the enlargement only produced inconvenience, from its size or weight.

Respiration.—The respiration was more or less affected in twelve out of the twenty-five cases. Of these dyspnœa existed in eight. The respiration is said to have been hurried in one; short in a second; laborious in a third; and slow in a fourth. The disordered respiration appeared to be dependent in some cases on enlargement of the abdomen, and corresponding compression of the pulmonary organs, in others (five cases) it may have resulted from disease of the lungs themselves.

Vomiting was present in seven cases. In two at the commencement, in three it was occasional, in one there was hematemesis, and in one it was connected with ulcer of the stomach.

Diarrhoea was present in twelve cases, and in some was the leading symptom throughout the progress of the disease. In Tinlay, for instance (Case 2,) during the six months he was in the Infirmary, the bowels were opened from eight to twelve times a-day for weeks together. In other cases this symptom only came on latterly, and in a few was not urgent.

Constipation is said to have existed in five cases.

Hemorrhages.—Extravasation of blood occurred in fourteen out of the twenty-five cases. Of these there was epistaxis in
six cases; hematemesis in one case; hemorrhage by stool, including hemorrhoids, in four cases; hemoptysis in one case; flooding after delivery in one case, and bleeding from spongy gums in one case. In some of these cases bleeding from the gums or bowels was associated with epistaxis, and this last symptom was observed in some of the best marked cases of the disease, with enlarged spleen.

Dropsy was present, more or less, in thirteen cases, generally dependent on the abdominal tumour. There was anasarca in two cases, ascites in four cases, and oedema of the lower extremities in seven cases.

Fever.—More or less fever was observed in eleven cases, indicated by increase of pulse, loss of appetite, thirst, and heat of skin. It was occasionally present at the commencement, at other times at the termination of the disease. In no case did it exist to any extent, or was long continued. From the frequency of splenic enlargement, it might be supposed by some that the disease was connected with intermittent fever, but that this ever occurred is very doubtful. It is said to have preceded the disease in three cases. In Case 8 the report says, that four months previous to admission there had been intermittent fever, but Dr. Walshe adds, "this point was not sufficiently inquired into." In Case 10 there had been repeated attacks of ague, the last of which occurred nine years before he came under observation, and seven years before the abdominal tumour was perceived. In Case 19 the patient also had laboured under intermittent fever, but seventeen years previous to the commencement of the abdominal swelling. So far as the recorded cases are concerned, therefore, there is every reason to believe that intermittent fever is in no way concerned with the production of leucocytethemia.

Pallor of the surface.—An unusual pallor of the surface was observed in many cases, resembling that of anemia. The conjunctiva, also, were of a peculiar light blue tint.

Jaundice.—In one case only of all those in which the liver was affected, was jaundice observed.

Emaciation.—In most of the fatal cases emaciation was extreme.

Complications.—Disease of the lung was present in five cases, including one case of bronchitis, one of phthisis, and three of pneumonia. Bright's disease existed in two cases,—cerebral hemorrhage in one case; cancer was present in three cases,—in one, in the form of an undescibed abdominal tumour (Case 10,) in a second, there was a cancer of the thyroid body and neighbouring lymphatics, and in a third, cancer of the liver, with ulcer of the stomach, stricture of the urethra, and hydro-
Leucocythemia. All these diseases were characterised by their peculiar symptoms, or physical signs during life.

It must not be supposed that the above numerical account of the symptoms exhibits even an approximation to the proportion which any particular one holds to the number of cases on record. Owing to the imperfection with which many of these are described, important symptoms in some not being even alluded to, this is obviously impossible. Statistics are no more applicable to this subject than to any other in medicine, where the cases have not been expressly drawn up in reference to such an injury.

II. Condition of the Blood in Cases of Leucocythemia.—Of the twenty-five cases of undoubted leucocythemia, it was detected after death only, in ten; during life only, in six; and both during life and after death, in nine cases. Thus it has been detected in the living body in fifteen cases, and in the dead body in nineteen cases.

On examining the blood of living persons (which is most readily accomplished by extracting a drop from the finger by pricking it with a needle, and then examining it between glasses under the microscope in the usual way), the yellow and colorless corpuscles are at first seen rolling confusedly together, and the excess in number of the latter over the former is at once perceived. This, however, becomes more evident after a short time, when the coloured bodies are aggregated together in rolls, and leave clear spaces between them, which are more or less crowded with the colourless ones. Means are altogether wanting to enable us to determine with exactitude the relative proportion of the two kinds of corpuscles in different cases. In some the colourless corpuscles are only slightly increased beyond their usual number. In one case they are described as five times as numerous as those in health. They are also said in particular instances to be "greatly increased," "one third as numerous," and "as numerous" as the coloured corpuscles. In all these statements there is nothing exact. Perhaps the best method of judging is to regard the spaces or meshes left between the rolls or aggregations of yellow blood corpuscles. When these are completely filled up, the colourless bodies do not, in fact, amount to one-third of the coloured ones, on account of the large number of the latter which may exist in a small space, in the form of rouleaux.

The size of the colourless corpuscles in the various cases given differs considerably. Even when at first sight they appear to be of tolerably uniform size in any one case, it may be observed, when they are magnified, highly and carefully measured, that some are twice the size of others, with all the intervening
sized between them. In some cases, though comparatively few in number, they are described as being three or four times larger than the coloured corpuscles, and in two cases recorded, they were in one about the same size, or somewhat smaller, and in the other of two sizes, one larger and the other decidedly smaller.

In the nineteen cases in which the blood was carefully examined after death, the same variations with regard to number and size of the colourless corpuscles were found to exist, as have just been referred to in blood drawn fresh from the finger. It was always observable, however, that they were most numerous in the clot; and when they existed in any number, as in Cases 1 and 2, they communicated to the colourless coagulum a peculiar dull, whitish look, and rendered it more friable under pressure. When less numerous, portions of the colourless coagulum from the heart and large vessels might be seen to present a dull cream colour, easily distinguishable from the gelatinous and fibrous appearance of a healthy clot, and such altered portions always contained a large number of the colourless bodies. This was especially observable in Case 34.

There is one remarkable fact which has been strongly impressed upon me by careful observation of the preceding cases. In no one instance has the condition of the blood been observed to undergo any marked change after the excess of white cells in it was discovered. In no case has this condition of the blood been seen to appear and progress gradually, as is observed in so many other lesions. In the case of Tinlay (Case 2,) the patient was under medical observation for a period of eighteen months, and the same excess of colourless corpuscles existed at the end of that time, as at its commencement. In the case of Kerr (Case 19,) the corpuscles were only slightly augmented in number, and yet at the end of eleven months they were not more numerous than when first examined. Cases are still to be met with, therefore, in which the commencement and progress of leucocythemia are to be observed. Such can only be expected to be found when the microscopical investigation of the blood is more generally practised in clinical investigation, as it is commencing to be in the Royal Infirmary.

III. Chemical Composition of the Blood in cases of Leucocythemia.—The chemical analysis of white cell-blood has been undertaken in only five cases, a number far too few to arrive at any important results. One cause of this is, that the majority of the twenty-five undoubted cases were only discovered after death, when any analysis of the blood in reference to the relative proportions of all its constituents cannot be determined. Another cause is owing to the circumstance, that several of
the cases observed during life were so weak and exhausted, that the abstraction of even two oz. of blood, for the purpose of analysis, could not be safely ventured upon. Of the five analyses, three were performed by Dr. William Robertson, of Edinburgh, one by Dr. Parkes, of London, and one by Dr. Strecker, of Giessen. Dr. Robertson also analysed the blood of a sixth case (Case 28,) in which there was enlargement of the spleen without leucocythemia. The following is a tabular view of these analyses, the inferences from which will be given on a future occasion:—

### Analyses of the Blood.

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<tr>
<td>No. 2.</td>
<td>1041:5</td>
<td>1026:5</td>
<td>6:0</td>
<td>72:0</td>
<td>67:5</td>
<td>145:5</td>
<td>854:5</td>
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<tr>
<td>3.</td>
<td>1036:0</td>
<td>1023:0</td>
<td>2:3</td>
<td>67:0</td>
<td>49:7</td>
<td>119:0</td>
<td>881:0</td>
</tr>
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<td>8.</td>
<td></td>
<td></td>
<td>7:08</td>
<td>75:22</td>
<td>101:63</td>
<td>183:93</td>
<td>816:07</td>
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<td>Later analysis.</td>
<td></td>
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<td>4:75</td>
<td>77:53</td>
<td>97:93</td>
<td>180:2</td>
<td>819:8</td>
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<tr>
<td>19.</td>
<td>1049:5</td>
<td>1029:0</td>
<td>5:0</td>
<td>95:0</td>
<td>80:0</td>
<td>180:0</td>
<td>820:0</td>
</tr>
<tr>
<td>23.</td>
<td>1042:0</td>
<td>1025:5</td>
<td>3:9</td>
<td>75:7</td>
<td>76:3</td>
<td>155:9</td>
<td>844:1</td>
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IV. Morbid Anatomy of individuals affected with Leucocythemia.—Of the twenty-five undoubted cases of leucocythemia which have been recorded, the body has been examined after death in nineteen. The information obtained from this source may be still further extended by a consideration of four cases in which the existence of this condition of the blood is highly probable; of seven cases recorded by Dr. Hodgkin of enlargement of the spleen and lymphatic glands, and of two cases examined after death where the spleen was hypertrophied without leucocythemia. In all, thirty-two dissections. The organs which have been found to be most uniformly diseased are the spleen, the liver, and lymphatic glands, and of these I shall speak separately. The other lesions found in the brain, lungs, heart, kidneys, &c., alluded to in Section I., under the head of complications, were evidently accidental or consecutive, and need not be alluded to especially, in this place.

### Condition of the spleen.—Of the nineteen cases of leucocythemia in which the body was examined after death, the spleen was found to be more or less enlarged in sixteen. In the other three, although it was healthy, the pulp in one, is said to be "a little more compact than usual;" in a second its condition after death is not alluded to, although an encephaloid tumour occu-
Leucocythemia.

pied the left side of the abdomen; and in a third the spleen was "healthy."

Of the sixteen cases in which the spleen was increased in volume, it weighed above 7 lbs. in three; above 5 lbs. in two; above 3 lbs. in two; above 2 lbs. in four; and nearly 1 lb. in one case. In four cases it was not weighed. The greatest weight of a spleen was 7 lbs. 13 oz., and the largest measurement 16 1/2 inches long, and 9 1/2 inches broad. The texture of the organ varied in different cases, in some being of unusual density, in others natural, and in a third case more or less soft and pulpy. In a few cases it contained yellowish masses, apparently a form of deposit, but in reality degenerated tissue. The structure was examined microscopically in seven cases, in all of which it was demonstrated that the cell and nuclear elements were increased, while the fibrous portion of the organ was apparently normal.

In four cases in which the existence of leucocythemia is probable, changes similar to those just stated occurred in the spleen, and in Dr. Hodgkin's cases similar lesions were found associated with enlarged lymphatic glands.

It is clear, however, that mere enlargement of the spleen is not necessarily connected with white cell-blood, for in case 27 it was simply hypertrophied and weighed three pounds and a half; and in numerous other cases where this organ has been undoubtedly enlarged, it has been proved by careful examination that the blood was normal—(Cases 26, 28, 35.) It remains to be ascertained what are the structural differences in the spleen existing between cases like these last, and those in which leucocythemia exists.

Condition of the Liver.—Of the nineteen cases examined after death, the liver was diseased in thirteen. In the other six it is distinctly stated to have been healthy in five, while in one it is not noticed in the report.

Of the thirteen cases, the liver was cirrhosed in two,—one in its incipient and one in the advanced stage of that disease. In a third case there was cancer of the organ, and in the ten others the liver was more or less hypertrophied. Of these it weighed above 13 lbs. in one; above 12 lbs. in one; above 10 lbs. in one; above 6 lbs. in three; and above 5 lbs. in two cases. In two cases, though much enlarged, the weight is not stated. In these cases the organ was more or less congested, and its consistence varied from great firmness to a degree of softening amounting to diffuseness. The minute structure of the liver was carefully examined in four cases, and found to be unaffected in three, while in the fourth it was infiltrated with cancerous exudation.
In the six probable cases of leucocythemia, it is said that the liver was greatly hypertrophied in four. In the other two its condition is not stated.

**Condition of the lymphatic glands.**—Of the nineteen cases examined after death, the lymphatic glands were more or less diseased in eleven. Indeed, it is very probable that they were affected in a larger number, as in most of the other cases they were in no way alluded to, and may possibly have escaped observation from an unacquaintance with the importance which, as we shall see, ought to be attached to them.

Of the eleven cases, the lymphatic glands throughout the body were greatly enlarged in four, and more or less cancerous in three others. The mesenteric glands were especially affected in two; the thyroid and epigastric glands in one; and the solitary and aggregate intestinal glands in one. In some cases they were soft, presenting on section a granular whitish appearance, and yielding a copious turbid juice on pressure. In other cases they were more indurated; and in one there were slight calcareous deposits. The glandular structure was carefully examined microscopically in eight cases, and in all exhibited increase of the normal tissue, the juice abounding in cell or nuclear elements. In two cases, cancer cells were mingled with the healthy textures of the glands.

In the 17th volume of the Medico-Chirurgical Transactions, Dr. Hodgkin has recorded seven cases in which the lymphatic glands were more or less enlarged, and at the same time associated with increased size of the spleen. He considers the enlargement of both structures to be allied, and to depend upon a primary lesion unconnected with inflammation or adventitious structures. The appearance of a bloody serum in the thoracic duct and absorbents struck him in two of these cases, but the blood itself was not apparently noticed. At the time Dr. Hodgkin wrote (1832), the microscope was not much employed in pathological investigation, but had the blood been examined in these cases, I cannot resist the conviction that the discovery of leucocythemia would not have been reserved for the year 1845.

In the concluding portion of this memoir, it will be my endeavour to establish from the foregoing facts, and from numerous other observations and experiments:—

1. That the coloured blood-corpuscle is derived from the colorless one.
2. That the colourless blood-corpuscles are derived from the glands of the lymphatic system.
3. That the lymphatic glandular system is composed of the spleen, supra-renal capsules, thyroid body, thymus (pituitary pineal ?) and lymphatic glands, and that these constitute an ex-
tensive apparatus for the formation and elaboration of blood-corpuscles.

4. That the fibrin of the blood is derived from the solution of the blood-corpuscles, and the effete matter resulting from the disintegration of the tissues.

5. That these propositions concerning the origin, development, and disintegration of the blood-corpuscles are now as a consistent theory advanced for the first time, receive proof of their correctness from the cases of leucocythemia previously detailed, and are in harmony with the facts elicited by the labours of Hewson, Nasse, Wagner, Richert, Gulliver, Zimmerman, Wharton Jones, Simon, Kölliker, Milne Edwards, Goodsir, and others.—[Monthly Jour. of Med. Science.

On Chronic Rheumatism. By John Carghill.

[The following paper, read before the Newcastle and Gateshead Pathological Society, comprises an analysis of one hundred and forty-three cases, one hundred of which were treated by the nitrate of potash in large doses, and the remaining forty-three by colchicum.]

These cases have been treated during a period of nearly six years, i.e. between 1842 and 1848, and they have been nearly all in-patients of this Hospital, so that I have had them constantly under my own eye, the few not so situated having been out-patients.

I have compared the cases together under as equal circumstances as possible, and have endeavored to attain as much accuracy as I could by carefully registering them at the time; this register comprises the following features:—Age, sex, duration of malady previous to admission, seat of pains, dose and combination of remedy, time of its employment, result, disturbing or other effects on the system, temperament of the patient, and concomitant treatment.

I shall first consider these points in reference to what was observed in the colchicum patients, and then in those treated by nitrate of potash, and shall conclude by recording certain deductions, which I think have unfolded themselves from the various facts, and likewise mention the views I entertain of the pathology and intimate nature of rheumatism.

Of the forty-three cases treated by colchicum, fourteen only were cured, or about one-third, and the average duration of the treatment was fifteen and a half days; the average duration of the malady before admission being seventy-three days. In addition to the fourteen who recovered entirely, there were twelve
relieved, whilst twelve remained no better. In one the complaint appeared to be worse, and in the other four, circumstances arose which prevented any positive conclusions from being arrived at.

Dose and combination of the Colchicum.—In rather more than half of those cured, that result was effected by the vinum seminum colchici in the dose of from fifteen to thirty drops thrice a day, with a little magnesia and sp. etheris nitrici. In a very few instances ten grains of Dover's powder were given a few times at bed-time. In six out of the forty-three, the colchicum was given in powder in four grain doses thrice a day; in one case it was given in six grain doses thrice a day, and in one case in two grain doses thrice a day, all combined with pulvis cretce. In all but the last named it produced vomiting, griping, and diarrhœa in two or three days' time, and had to be left off for the vinum with magnesia. Of this latter combination, the dose before mentioned, viz: n.l.xv. to xxx. with fifteen grains of magnesia, and 3ss. of sp. eth. nit. was the most effectual, and the best borne. When the vinum was given by itself it seemed slower in its curative effect, and when given in 3jss. doses of 3j. doses thrice a day, either alone or combined (a measure in a few instances adopted,) it invariably had to be left off, from its producing very speedily its usual severe physiological effects, with great depression, and often cramps, the disease remaining at the same time unaffected. I should add, that these results followed even when the above doses were attained to very gradually.

Concomitant treatment.—In seventeen out of the forty-three cases the warm bath thrice a week was used, and in fourteen out of this number manifest relief was obtained. In ten cases out of the forty-three, Dover's powder was given in from ten to fifteen grains each night, and in six of these cases it was followed by beneficial effects. Cupping was occasionally used, and generally with benefit. Bleeding from the arm was scarcely ever practised, and calomel, Epsom salts, blue pill, or colocynth, were used as preliminaries, if constipation existed. As to the seat of the disease, it was in the several joints and muscles. In four cases wherein the rheumatism existed along with sciatica as its chief feature, the treatment by colchicum was fruitless.

II. Chronic Rheumatism treated by Nitrate of Potash in large doses.—Of the one hundred cases treated by this method, there were sixty-one cured, being more than six-tenths of the whole, and the average duration of the treatment was thirteen and three-quarter days. In addition to the sixty-one cured, there were twenty who experienced great relief, but were not entirely cured at the time of dismissal; there were five who
experienced very slight benefit only, three received no benefit, and three got worse. In the remaining eight cases no positive conclusions could be arrived at.

**Dose and combination of the remedy.**—The usual dose to begin with was 9ij. thrice a day in barley water; this was adhered to in many cases throughout, but in a large number it was increased to 3j., 3iss., 3jj., thrice a day, and in one case 3iij. every four hours was begun with and continued without intermission for twelve days, without the smallest inconvenience to the patient, who was cured in that period. This was a bad case of two and a half years' previous duration. The dose was often begun with and continued at 3j., and with no disagreeable effect; sometimes 3j. thrice daily, and sometimes 3j every four hours consecutively.

Being desirous of ascertaining whether the duration of the malady might be shortened, or good in other ways obtained by combining the nitre with sp. nit., antim., tart. and tinct. opii, I adopted this in a considerable number of cases, and the result has shown me that no advantage is derivable from this practice. The dose of sp. of nitre was generally from 3\text{vi}v. to 3ss. or more; that of the vin. antim. 3\text{xxv.}, and that of the tinct. opii 3\text{v.} to each dose of the pot. nit. Sweating and diuresis were equally produced by the nitre alone as when given in the above combination. Of the three, the tr. opii alone appeared useful by frequently assuaging the severe pain.

**Disturbing effects.**—It is of great importance to remark that this remedy was invariably administered in a large quantity of warm barley water—not less than 3vii. to each dose. When given in the above large dose, without a diluent and demulcent like barley-water, it produces intense griping, with pallor of the countenance and cold perspiration, the pulse and heart's action flagging and coming down, and the greatest anxiety being experienced. This is followed by a dry red tongue, with enlarged papillae and much thirst. This I had an opportunity of seeing to an intense degree in one case wherein the nitrate of potash in those doses had been administered several times without any diluent by the oversight of a nurse; she gave it in 3iss. of plain water. I was on the point of applying numerous leeches to the epigastrium, fearing that gastritis was coming on, when the symptoms at last yielded to diluents and warm external applications, leaving no appreciable effects behind.

I shall now mention what were the disturbing effects on the system observed to be produced by large doses of nitrate of potash in cases where it had been duly taken with barley-water, but had not been well borne by the system. Those effects were seldom manifested, the medicine, when properly diluted,
seeming to act mildly and efficiently. When it is not tolerated, however, its effects are primarily on the nervous system. They are these: general debility of the limbs, especially the lower extremities, and the knees, too, particularly complained of. I have seen this carried to an extent which made the patients believe that they were seized with general paralysis; the whole body seemed to be made of wood, and for some hours it was impossible for them to rise from their seat or to move hand or foot. To this were conjoined general tremblings, and the speech was affected; occasionally the names of things were forgotten or mistaken; there was also giddiness, and a painful rushing sound in the ears. I never in these rare instances saw any distortion of the features, and the symptoms subsided in a few hours by diuretics or copious perspiration. In the event of such results occurring, the chief remedies I should recommend would be hot diluents and hot blankets. The subjects of them will be found generally of the purely nervous temperament, especially if associated with feeble power of the constitution. When the sanguine or bilious temperament is combined with the nervous, the remedy is better borne and may be pushed farther; and it agrees with my observation that the bilious lymphatic temperament, with its firm, harsh, muscular development, is the one in which this plan of treatment the oftenest succeeds, and may be used the most fearlessly, as it is the one on which chronic rheumatism, when once established, displays itself with perhaps the greatest relentlessness.

The concomitant treatment was simple, and most generally dispensed with altogether (with a view to ascertain more accurately the value of the nitrate of potash itself), except in cases of severe complication, in which the need for additional means, chiefly local, was urgent. It consisted in occasional warm baths and vapour baths. Cupping and leeching were had recourse to in such cases as showed a concentration of the disease in particular joints, as evidenced by swelling, redness, and acute pain not shifting its seat. In dull chronic pains localized, occasional blisters were applied, and often with benefit; and, towards the termination of the cases, a liniment of ammonia and turpentine was frequently useful in restoring the natural suppleness of the parts. When the pains were so great as to prevent sleep, and to harass the patient in an unusual manner, a draught of muriate of morphia, with solution of acetate of ammonia and water, was given at bed-time. The bowels were kept free by means of occasional light cathartics; and the treatment was generally commenced by giving a dose of calomel and colocynth, followed by a draught of infusion of senna with sulphate of magnesia.
The diet enjoined was nutritious, being the ordinary diet of the house—viz., meat once a day, milk, rice, broth. In such cases as presented symptoms verging on the acute, low diet was prescribed—such as milk, tea, sago, &c. In all old standing chronic cases generous diet was found the best, accompanied even by ale, porter, wine, or gin.

In the above 100 cases, the duration of the malady previous to admission was widely different—so much so, that no analytic average could be struck with a view to results that would not have a tendency rather to conduce to error than to elucidate truth. I may state in general terms that the length of time in these cases, previous to coming under the above treatment, was from seven days to ten years, whilst there were a few who could remember no period of their lives in which they had not been victims, more or less, to the complaint. Two months, five years, six years, six months, one year, were the most common periods cited; and it should be remarked that nearly all the cases were of an unusually severe character, and had been under all manner of practitioners; for many, despairing of a cure otherwise, had committed themselves to the tender mercies of unprincipled quacks, from whose fiery ordeal they had emerged with the conviction that now nothing but a residence in an infirmary with the reputation of our own could avail to benefit them!

Sex.—It is remarkable that, of the whole 143 patients, 17 only were women, the remaining 126 being men. The average age of the women was 35½, that of the men 37½. From this it appears that, in this part of the country, men are about 8½ times more liable to be affected with chronic rheumatism than women, or for one woman attacked with chronic rheumatism there will be between eight and nine men. This is in all probability owing to the greater exposure of men to cold and wet; for I have found that in all of these cases the exciting cause, when any could be given, was invariably cold and wet, or sudden transitions from a high temperature to the opposite. On referring to MS. notes of M. Louis' clinical lectures on this subject, taken down by me at the time of their delivery at the hospital of La Pitié, in 1835, I find his experiments the same as to the exciting cause—invariably exposure to cold air or draughts (un vent frais).

The difference as to the frequency of rheumatism in France and England seems to be very great. Louis says that, out of 100 cases of all sorts treated by him, he only found one of rheumatism; and in the Paris hospitals, during two years, it was rare that rheumatism, whether acute or chronic, ever fell under my observation. That the difference is great among us will
appear from the following fact:—On analysing, a good while ago, a number of cases of all sorts, nearly all of them chronic, treated by me in this hospital, embracing a period of five years, and amounting to 959, I found that 86 were cases of chronic rheumatism, being, on an average, one in eleven and a sixth of the whole number. From this I think we may infer that climate exercises an immense difference in this disease; and doubtless the same cause is, in regard to all other diseases, more powerful than we are generally aware of. How else can we explain the entire exemption of some countries from certain maladies? In India and Egypt phthisis is unknown.

I will take the opportunity of stating here, that I believe heart affections to be very uncommon associates with chronic rheumatism; nor do I think that this malady is apt to be followed by cardiac disease. In the cases above analysed it was constantly found that such of them as showed heart disease, had been preceded by rheumatic fever, and the heart affection could be traced to that period of acute disease. This is in conformity with the opinion, now, I believe, generally entertained—viz: that acute rheumatism is frequently accompanied by endocarditis, and without very vigorous measures, is apt to be succeeded by permanent disorganisation of the heart. I have seen this hold to the full extent admitted by Dr. Hope, though not perhaps to the degree maintained by Boullaud. In chronic rheumatism properly so called, heart disease is, in my opinion, a rare occurrence.

In speaking of acute rheumatism I would record here my experience that in patients under the age of puberty acute rheumatism seldom or never happens without most seriously involving the heart; and the younger the patient (I have known it occur at five years) the more certainly fatal is this heart affection. I have never seen a single subject in the above category who eventually shook off the heart affection and recovered. And, in addition to the ventricular hypertrophy and dilatation constantly present in these cases, as well as the valvular disease, I must mention a morbid appearance perhaps equally constant, and which I think has been overlooked by pathologists, or only casually if at all mentioned—viz: a tough, dense, false membrane lining the general interior of one or other of the dilated auricles, generally the left, obliterating the musculi pectinati almost entirely, and so converting the auricle into an uncontractile sac: thus furthering mitral regurgitation, and, by its undoubted effect of congesting the lungs and brain according to the auricle affected, mainly producing the frightful dyspnoea and brain symptoms which constitute the worst features of the malady.
Of what value is the nitrate of potash in large doses in *acute rheumatism*? I have had no experience of it myself in *acute rheumatism*, trusting as I have done to calomel, opium, Dover’s powder, antimony, and, in the worst cases, bleeding; but my friend, Dr. Fenwick, of North Shields, who afforded me valuable assistance in preparing the first series of the above cases, when clinical clerk in this house some years ago, as did also Mr. Gibb, informs me that he has adopted it to a large extent in private practice in Shields, and has found it to answer in a remarkable manner. I would also refer you to Dr. Basham’s cases of the acute form, and his treatment by the nitrate of potash in large doses—a paper read to the Royal Medical and Chirurgical Society of London, and published in the ‘Medical Gazette,’ Nov. 24, 1848. His success was great, the urine acquiring a high specific gravity, and the salt being detected in it. The specific gravity was raised to 1030 and 1040, which he thinks was owing to the nitrate, though Dr. C. B. Williams attributes it to the urea and the lithates which are by its agency made to be present in the urine. Dr. Basham states his belief that, owing to its agency in acute rheumatism, there is a certain degree of *exemption* from disease of the heart.

I will conclude this paper (already too long) by recording certain facts and deductions which have manifested themselves to me from the careful investigation I made of the above cases. In nine cases out of those wherein no relief or only slight relief was obtained, there were either purulent collections somewhere, or the usual common inflammations which precede suppuration—such as testitis, obstinate conjunctivitis, erysipelas. Are we entitled to deduce from this the general therapeutic principle, that in chronic rheumatism, when it is in that aggravated form in which we have pus circulating in the blood, the treatment by nitrate of potash is not to be depended on, and must be relinquished for another?

Again, in 81 out of the 100, the cure was almost or altogether effected in 14 days by the nitrate of potash in large doses, and these were cases wherein, though severe, there was no suppuration, nor ordinary inflammation of particular organs. It has been before laid down that nitrate of potash acts primarily on the nervous system. May we not infer, then, that those 81 cases were cases in which the nervous system was alone at fault? And, from the two considerations taken together, may we not look at rheumatism as a disease composed of two varieties—viz., that in which its assaults are expended on the nervous system alone, and that other more severe one in which pus circulates in the blood? Various observations and reflections have led me to take this view of the subject. Rheumatism is
first a nervous and then a blood disease, and it maintains a distinct individuality in both these phases in a manner more singular than other complaints. In what I call its nervous form it is a kind of Harlequin inflammation, and less mischievous than it seems. A little energy will knock it out of the system: if uncontrolled, it undergoes a transmutation, becomes grave, enters the blood, and changes it, and walks into the heart itself, the citadel of life. At present we want a set of careful microscopic experiments on the blood in all the varied conditions of rheumatism. Last year, at my request, Mr. Gibb took for microscopic examination small portions of the blood of several patients affected with different diseases. In the blood of one who had no trace of inflammatory disease of any kind we found, to our surprise, numbers of pus globules. In a few days there was developed in this patient a severe erysipelas, which finished by becoming phlegmonous. Here, then, inflammatory disease existed in the blood for a certain time without betraying its presence, until at length its increase became such (vi res acquirit eundo) that nothing but an acute attack upon the skin sufficed for its elimination.

3. In cases wherein mercury has been previously extensively taken, and cases where there is syphilitic malady present in the system, whether mercury has been taken or not, the nitrate of potash is without power. The remedy is the hydriodate of potash.

4. In cases of general chronic rheumatism, in which sciatica is the most painful feature, the nitrate of potash will banish the complaint from the other parts, but will not avail against the sciatica. In this event, arsenic, where it is borne, is the most powerful remedy.

5. In cases wherein the symptoms are doubtful, being circumscribed though severe, and simulating such other common inflammations as pleuritis, peritonitis, ordinary cerebral or spinal meningitis, and even spinal irritation and hysteria, the state of the tongue, if it appear as if overlaid with a coat of deep or light white paint, so constant in the rheumatic condition, will most essentially guide the diagnosis.—[Med. Gazette.]


[Blood may exist in the urine in different degrees; either in such quantities as that the red globules colour the urine by their quantity, or they may be so minute in quantity as to require the microscope for their detection, or the paler parts of the blood may be present, requiring chemical means for their
Hæmaturia.

[August,

detection. If it be effused in any quantity, the conditions of the various parts of the urinary apparatus must be considered. The treatment of the diseased conditions of these parts is so much within the province of the surgeon that Dr. Rees counsels physicians to remember this whenever hæmaturia cannot be satisfactorily explained on other grounds. There are one or two points to be noticed connected with the examination of urine containing blood. And first, with respect to the recognition of the blood corpuscles under the microscope.

These bodies, as they float in urine, are seldom seen precisely as they appear in serum. They are thicker at their edges, and the colouring matter within them is paler. This condition is caused by the entrance of urine into the corpuscle—an effect which occurs in virtue of the law of endosmosis. The blood-corpuscle naturally contains within its membrane a fluid of the same specific gravity as the liquor sanguinis; and when therefore, it comes in contact with the urine, which is far below the specific gravity of the liquor sanguinis, endosmotic currents are immediately set up, an interchange takes place between the contents of the corpuscle and the urine without, and as the urine is of less specific gravity than the contents of the corpuscle, the interchange takes place in such manner that it enters the corpuscle in greater proportion than the contents pass out; and thus the body becomes distended.

I shall hereafter have occasion to allude to the presence of pus and mucus in the urine, together with blood, and to the importance of detecting them, inasmuch as we are thereby greatly assisted in all our diagnosis in certain obscure cases of hemorrhage; and I will therefore now describe the appearances presented by pus and mucus when so observed. Pus and mucous corpuscles are both larger than those of the blood: they are colourless, and variegated on their surface: whereas the blood corpuscle is smooth and of a light yellow colour. The pus corpuscle very closely resembles the mucous; but if carefully examined, we observe that it is dotted and granular rather than variegated on the surface, and of looser texture than the mucous corpuscle. The reactions of urine containing blood are easily appreciated; and there is but one source of fallacy to which it is necessary to direct your attention. This consists in a condition of urine which will seldom be present to confuse you, and I have not seen it more than twice. I allude to the brilliant red colour sometimes produced in urine by certain articles of diet. Many vegetable matters colour the urine of a fine amber colour; the pyrola and sumach possess this property in a marked degree. Sometimes this colour will nearly approach to red; and occasionally, when beet-root has
been eaten, the colour observed in the urine is so completely that of blood, that it is impossible to discriminate without having recourse to the use of reagents. The distinction is easily made, however. If the urine be tested by the liquor potassae, a dirty brownish precipitate is produced if the colour be owing to blood; but in the case of vegetable colouring matter, the urine will become of a fine green tint.

When blood is present as a deposit in urine, in any quantity, we may be sure that albumen exists in solution; and it is important that we should know, within certain limits, the corresponding degree to which we may expect the urine to be albuminous for any given quantity of red corpuscles which may appear in it. An approach to tolerable exactness may be attained by practice and attention to this point; and it is one of great value in the diagnosis of urinary diseases. When we boil urine containing albumen, if it be acid, as is generally the case, a precipitate is produced. Now when blood is present, you will be surprised how much of it is required to produce an amount of albuminous precipitate such as characterises cases of ordinary albuminuria. Unless, indeed, the urine present the appearance of being made up in very large proportions of blood, the amount of albumen will generally be trivial. This will not appear extraordinary to those who are in the habit of observing how much show a little blood can make; and the quantity of albumen in the urine of morbus Brightii may well appear comparatively great, when it often amounts to as much as indicates the disintegration of several ounces of blood per diem; and one ounce of blood will make a great show in the quantity of urine passed in twenty-four hours. The importance of paying attention, then, to this point, principally consists in our being able occasionally to detect the morbus Brightii by showing an amount of albumen in the urine far above that indicated by the red corpuscles present.

Returning to the pathology of the subject, let us now assume that careful examination of the bladder and prostate gland has satisfactorily shown that the kidneys or ureters are the source whence the blood contained in the urine must be derived, and consider to what condition of those parts the hemorrhage should be attributed. First, as regards idiopathic haematuria. This bleeding from the surfaces of the kidney, without any special cause beyond exposure to cold or to the vicissitudes of climate in warm and damp localities, has been considered as rare by most writers. For my own part, it has so frequently occurred to me to detect the cause of such hemorrhage in lesion of some organ, that I am much inclined to deny haematuria ever occurs, except as an indication of decided disease of the kidney or
other part of the urinary apparatus. It is true, idiopathic hæmaturia sometimes occurs, together with hemorrhage from other mucous surfaces, in those who ascend to great heights, and who consequently suffer the loss of that amount of atmospheric pressure which preserves the conditions of equilibrium necessary to the safe circulation of the blood; but we may at once exclude such cases as these from the consideration.

With respect to the appearance of the urine, Dr. Prout considered that, when blood tinctured the whole fluid, appearing equally dissolved throughout it, that the kidneys were generally involved. This is an observation which experience certainly verifies. When such an appearance is observed, however, it co-exists or alternates generally with blood as a deposit, and we may conclude that there is calculus in the kidney, or that the organ is the subject of other diseased condition, attended either with great congestion, granular deposit, or malignant disease. The detection of the real state of matters becomes very important in such cases. The symptom is a prominent one, and the patient's friends are sure to press the practitioner urgently for his prognosis. Now, though in most cases, if calculus be present, the history or severity of symptoms will assist us at once to the truth, yet it sometimes happens that such evidence is not afforded; and this is more especially the case when oxalate of lime calculi are contained in the kidneys. Under these conditions the urine may be bloody, and no other symptoms observed beyond dull lumbar pains. If oxalate of lime crystals exist in the urine, there is also pain in the penis, which does not affect the glans penis, as in stone in the bladder; but, on the contrary, is most plainly felt at the root of the organ.

Now, though in these cases the hemorrhage will generally follow upon some unwonted exertion, still it is not always so, and the case is thus greatly obscured; for we lose a most important adjuvant to our diagnosis. If the hemorrhage is the result of any of those chronic states of disease to which the name "morbus Brightii" has been given, we may easily detect that it is so, for then the hemorrhage which may occur will soon be found to give place to other conditions, in which the colourless matters of the blood alone become effused. We have here only to wait; and, whenever the urine may be excreted of its natural colour, to test it for the presence of albumen; and if this principle then be present in any quantity, without the colouring matter of the blood, we may be nearly certain that the further progress of the case will be marked by the continued exertion of natural coloured urine containing albumen, and not by hemorrhage, and that the patient is suffering from some form of the morbus Brightii.
If, however, the urine, on becoming of its natural colour after an attack of haematuria, does not prove to contain albumen, then we may feel nearly sure that the hemorrhage proceeded either from a calculus in the kidney, or some malignant disease of the organ.

The diagnosis between these two conditions must depend on the observation of the following points:—

1st. In malignant disease the blood is generally passed in larger quantity than in calculus of the kidney.

2ndly. There is more frequent tendency to nausea on slight occasion than in calculous disease.

3rdly. Microscopic examination of the urine will frequently show pus or mucus in excess, if there be calculus; whereas, in malignant disease, this sign does not so frequently exist.

4th. The appearance of those suffering from malignant disease of the kidney, is nearly always indicative of a state of anaemia more or less advanced.

5thly. In calculus, haematuria generally follows upon some unwonted exertion.

6thly. Careful examination of the abdomen will frequently lead to the detection of tumour if there be malignant disease of the kidney.

To sum up, I should say, in the first place exclude from the consideration, cases of what has been called idiopathic haematuria, which can scarcely exist under ordinary barometrical conditions; secondly, determine that the case does not belong to the morbus Brightii, by ascertaining that when the red particles cease to appear the albumen also leaves the urine; and, thirdly, when the hemorrhage observed is placed within these limits, determine whether it be owing to calculus in the kidney, or to malignant disease, by especial attention to the following points:—The appearance and complexion of the patient; the presence or absence of nausea on slight occasion; the presence or absence of pus and mucus in the urine mixed with blood corpuscles; and, lastly, by careful exploration of the abdomen for the detection of tumour.

Now as regards the treatment of the two forms of haematuria I have been speaking of,—viz: that produced by calculus in the kidney, and that which is the consequence of malignant disease.

From what I have already brought before you with respect to the treatment of alkaline urine, as produced by irritation of the urinary mucous surface, you will at once perceive that the condition brought about by the existence of a calculus can never be benefitted by the exhibition of other than demulcent and alkaline remedies. It matters not how the calculus may
be composed,—be it uric acid, oxalate of lime, or phosphatic,—be it soluble in acids or alkalies,—we cannot treat it chemically while in the kidney. Our object must be to render the urine as unirritating to the mucous membrane as possible, and enable that membrane thus to bear the presence of the calculus with as little inconvenience as possible. There is another indication, however, which we answer by this alkaline and demulcent plan, and a most important one. It consist in the relaxation of the spasm of the canal. By effecting this, a small calculus may be often brought away, which otherwise might remain to increase, and perhaps destroy the patient. It is with this view that we should combine our demulcent and alkaline remedies with such sedatives as the patient can bear without disturbance of stomach. Our most favourable result, of course, will be the expulsion of the calculus. Next to this we must hope that it will become encysted, and, by being so fixed in the kidney, cease to cause irritation; while we have to fear, as the worst result, the setting up of inflammatory action in the body of the kidney. This may terminate in the effusion of lymph in the tissue of the organ, and in a subsequent contraction of the inflamed part; and sometimes the patient may be so fortunate under these circumstances as to have the calculus which has caused the acute nephritis should it be a small one, impacted in the kidney, so as to create no further irritation. In a great many of these cases, however, the acute nephritis terminates in suppurative disease; and if there be any constitutional imperfection dependent on strumous or syphilitic taint, this is the way in which we may generally expect the case to end. All we can do under these circumstances is to support our patient, exhibit opiates, and render the renal secretion as unirritating as possible. It is absolutely necessary that such persons should avoid exercise in any way beyond that necessary to walking gently, or exercise in any easy carriage. Neglect of this doubles the danger to the patient, while the difficulty of enforcing the injunction is often very great.

With respect to the treatment of cases in which the hæmaturia depends on malignant disease of the kidney, of course we cannot proceed with any hope of cure; but much may be done by attention to the general health, and by relieving those symptoms which arise as the result of the hemorrhage and the impaired state of the chylopoietic viscera. The anæmia so often noticed in these cases, which causes dyspnœa on slight exertion, and restless nights (from the facility with which any error in diet produces palpitation and throbbing of the carotids,) may be to a great extent combated by the exhibition of iron in some palatable form. Perhaps the best preparation for the purpose
is the tinctura ferri sesquichloridi, taken in doses of from \( \frac{m}{x} \) to \( \frac{m}{xx} \) three times a day, the bowels being watched the while, and kept regular by the exhibition of mild and aromatic laxative medicines.

It may be objected to the use of iron that it frequently tends to produce hemorrhage, and that we ought scarcely, therefore, to exhibit it; and it is quite true that care is necessary on this point. Watch the effects of the remedy, however, and you will constantly find you can exhibit it with advantage; that it will not induce hæmaturia, and especially if it be exhibited in the form of the sesquichloride of iron tincture. With regard to the use of styptics, they frequently appear useful in cases where the disease is not much advanced. One of the best I know, and which I have used several times of late, is the tannic acid, exhibited, if necessary, at intervals between the doses of iron in the form of pill. The dose should be from four to eight grains three times in the day. I may here remark, with respect to the use of this remedy, that, if you wish it should reach the stomach as tannic acid, you must not exhibit it in solution. You may, if you do so, have the good luck to give the first dose before it becomes changed; but tannic acid is rapidly converted into gallic acid when dissolved, and the best means of exhibiting it unchanged is in the form of pill.—[Med. Gazette.

On Nitric Acid in Hooping Cough and Asthma. By F. C. T. Arnoldi, M. D., Lecturer on Midwifery and Diseases of Women and Children, St. Lawrence School of Medicine, Montreal, &c., &c.

The few following remarks I take the liberty of communicating to the profession, through the pages of this excellent Journal, feeling perfectly confident they will be read with pleasure, inasmuch as they are somewhat novel as regards the alleviation of hitherto supposed intractable diseases, viz: hooping cough and asthma. The modus operandi of the remedy I will not at present attempt to explain, but from the results of my own practice and that of my medical confrères who have watched it and adopted it, I confidently recommend its application to all such as meet with similar cases. In hooping cough, at whatever age, whether it be a child at the breast, or a full grown adult, I administer nitric acid in solution, as strong as lemon juice, sweetened ad libitum. I had given to a child of two years of age, as much as one drachm and a half of concentrated nitric acid, in the above manner per diem, and I have never known the disease to resist its use beyond three weeks. In one instance, that of a child at the breast, only seven months
old, the disease disappeared within eight days. In another instance of a young lady fifteen years of age the paroxysms were subdued within the first twenty-four hours, and the disease disappeared within ten days. Again, in the cases of two boys about ten years of age living at a great distance from one another, who had had the cough for several weeks, and to such a violent degree, that both of them had the circumference of their eyes ecchymosed as though they had been pummelled in pugilistic combats, the acid acted positively like a miracle. A medical confrère of mine had four of his children severely affected with the same disease in the middle of winter, and although they had to be kept in-doors owing to the inclemency of the weather, they were nevertheless all perfectly cured within three weeks. I might go on to cite a hundred similar instances, but these, I am satisfied, will prove sufficient to induce the profession to adopt this treatment. As regards asthma, the use of nitric acid has proved not only in my own practice, but in that of others who have adopted it, truly marvellous, and I trust that the profession will remain satisfied by my quoting two special cases. One is that of an elderly person, who had been for five years a frequent inmate of the Montreal General Hospital, a thorough victim to this disease. He generally remained under treatment the winter, and used to be discharged when the disease seemed to have exhausted itself. This patient, about eighteen months ago, was again admitted into the Hospital, under the care of my friend Dr. David, who, observing the obstinacy of the paroxysms, resolved on trying the use of nitric acid, the result was that the first night was passed tolerably; the second night he slept well; the day after the third night he reported himself perfectly convalescent, and on the fifth day he was discharged at his own request, since which he has never been heard of. The other case is that of a stout plethoric servant girl, about thirty-five years of age, who applied to me in the early part of December last. She was then labouring under very severe asthmatic distress, and told me that she had been a martyr to repeated attacks, equally severe for four or five years past; that she had consulted many medical men, but could never obtain any relief, until, as she said, the disease had spent itself. I gave her a prescription containing half an ounce of concentrated nitric acid, and I have never seen her since, but during the New Year holidays, happening to call at the house where she served, I made enquiry about her, when I was told, much to my merriment, that the reason why she never came back to see me was that she thought that I had bewitched her. She had often taken medicines which gave her no relief, but that the very first night after taking the acid, she slept per-
fectly sound, and had not, up to that time, had any return of the symptoms. Now, these are obstinate facts, and I trust that this familiar method of communicating them will not diminish their value, nor need any of the profession to be too sceptical to follow the treatment.—[Canada Med. Jour.

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Turpentine in Dysentery. By John Long, M. D., of Pleasantville, Kentucky.

For more than twelve months past, I have been in the habit of using Turpentine in the treatment of Dysentery, as it has occurred in this section of country, and find it to be a most valuable remedy in this often formidable disease. I have employed it in cases where the irritation or inflammation seemed to be confined to the lower portion of the bowels, as well as such as were complicated with typhoid fever. Dose, ten drops of the turpentine combined with twenty drops of laudanum, for an adult every eight hours—with mucilaginous drinks and farinaceous diet. In obstinate cases it is necessary, in conjunction with the above, to resort to the ordinary enemata of laudanum and starch. Other remedies, as mercury, quinine or astringents, may also be used as circumstances require.

I was first induced to resort to turpentine in the treatment of dysentery, at the suggestion of Dr. Wood of Philadelphia, who recommends it in typhoid fever.

During the past summer, I treated thirty cases according to the above method, twenty-nine of which recovered and one died; the latter resided fifteen miles off, and I did not see him but once.—[St. Louis Med. and Sur. Journal.

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On the remedial virtues of Nitrate of Silver in Chronic Diarrhoea. By Professor A. H. Cenas, M. D.

On taking charge of the Obstetrical department of Charity Hospital in November last, I found in the wards several children, between the ages of two and four years, laboring under Chronic Diarrhoea.

As they had been treated in the usual manner, viz: with astringents, absorbents, opiates, etc., etc., without success, I resolved to try the efficacy of Nitrate of Silver in solution and by the mouth. The good effects of the remedy are shown in the following cases.

Case I. This child, a girl, aged about two years, came under notice 6th November, she had been laboring under diarrhoea for nearly two months, and was very much emaciated, anemic
and ulcerations in the lower extremity. Bowels were moved about twenty times in the course of twenty-four hours and the discharges were thin, glairy and greenish, and voided with considerable tormina.

B. Nt. Argent Chrys. gr i.

Mucilag Acac. oz. iss.

Ordered a tea-spoonful of this solution to be given after each stool. Diet, chicken broth; drink, toast water.

Nov. 7. Decidedly better, discharges from bowels reduced to twelve in twenty-four hours; less tormina, but stool of the same character. B. cont. treat. and diet.

Nov. 8. Improving rapidly, only eight stools in last twenty-four hours, no tormina, stools of better color and constitution, child more sprightly, complexion improving. R. cont. treat and diet.

Nov. 9. From this date until the 15th improvement progressive, medicine gradually withdrawn and child discharged well on the 16th.

Case II. The child, also a girl, and aged about two years, had been ill about two weeks; condition and symptoms pretty much as above; not, however, so many discharges from bowels, being, as well as nurse could ascertain, about fourteen or fifteen in twenty-four hours. R. Nt. Argent., as in the preceding case, with entire relief in four or five days.

Case III. This case, a boy, nearly four years old, had been laboring under diarrheaa for more than two months, was very much reduced in flesh, and so debilitated as not to be able to rise from bed; about fifteen stools in twenty-four hours, which were serous and almost inodorous, but acid, excoriating the anus and neighboring parts.

R. Nt. Argent, as above, chicken tea, drink, toast water.

Nov. 21. A shade better; passages not quite so frequent; nurse thought only two or three less than before medicine; child expresses himself as much easier. R. cont. treat. and diet.

Nov. 22. Decidedly better, only eight stools since last visit, which were of better color, and constitution otherwise improved, disposed to set up. R. cont. treat.

Nov. 23. Still improving; only four evacuations in last twenty-four hours, and these were fecal in constitution and odorous; appetite improving, strength returning. From this date he continued to improve, getting out of bed for a few hours daily and was finally discharged on the 28th.

Case IV. Nov. 24. Also a boy aged about three years; this child had been laboring under lienteric diarrheaa for several months, with tumid abdomen and enlarged mesenteric and cervical glands. Highly unfavorable symptoms, indicating an advanced degree of marasmus and scrofula.
Thus this case was decidedly unfavorable, and I had no expectation of affording relief; still, as the diarrhoea was incessant, everything the child drank running through him, I ventured on the solution, giving him the usual dose and in the usual manner. Without detailing the case from day to day, I will state that for the first few days it acted like a charm, reducing the number of evacuations from more than twenty daily to only two or three, and otherwise so greatly improving the little patient that I began to hope for something permanent; when, however, on the fifth day of the treatment, the efficacy of the remedy failed and the little patient fell rapidly back to his first condition, in which he lingered for a few days longer.

Case V. Occurred in female practice: the patient a little girl aged about fourteen months, had been labouring under choleric diarrhoea for nearly three days before I saw her. I found her, April 3d, pale, cold, and with a frequent pulse, and having about twenty thin serous and fetid evacuations in the twenty-four hours. I commenced the treatment of the child by a few of the ordinary remedies, and continued them for nearly twenty-four hours, when perceiving no amendment, I resorted to sol. of Nit. Silver as in the above cases, with the satisfaction of restoring my little patient in the course of forty-eight hours.

I could enumerate other cases, but I think the above sufficient to show the advantages of Nit. Silver exhibited in the manner indicated, viz: in solution and by the mouth. I have used the agent before under similar circumstances per anum, but with indifferent success. This was principally owing to the inability on the part of the infant of retaining the enemata, or it may be to the want of precaution of the nurse in administering it. By the mouth these objections vanish, the medicine being tasteless, and any mother or nurse can properly administer it.—[New Orleans Med. Register.

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As our National Dispensatory gives no account of this valuable class of medicinal applications, (suppositoria) a brief notice of their preparation, in the "American Journal of Pharmacy," will perhaps be serviceable to some of its readers. Though hitherto but little employed in this country, suppositories have long been extensively used in France. They have recently, however, attracted the attention of some of our physicians, and bid fair to grow into much more general demand.

They may be described as medicated compounds of a stiff consistence, designed to be introduced into the rectum, and serving the purposes of the ordinary oysters or injections:
Suppositories.

(Enemata.) They are applicable in all cases of constipation, or of irritability, or inflammation of the lower intestines; and have the advantage over liquid injections of more easy introduction, as well as of greater comfort and cleanliness; and they may sometimes be retained, when liquors would not. There is, perhaps, no substance so well adapted to serve as the vehicle of these applications as the butter of cocoa, (oleum cacao,) as no combinations of suet, spermaceti, or wax, &c., combine in so great a degree the proper hardness or firmness of substance, with the requisite fusibility.

The following formula, is a prescription of Dr. S. W. Mitch-ell and has been considerably used.

Take of Cocoa Butter, 3 iss.
Powdered Opium, gr. xii.
Mix and make into twelve suppositories.

The butter of cocoa is to be melted by a gentle heat. The opium is then to be well rubbed up with a small quantity of the fluid, until thoroughly incorporated, and the remainder of the melted butter gradually added. When cool and slightly thickened, the mass, being well stirred, should then be poured into paper cones.* If the cocoa butter is too fluid when transferred to the moulds, the opium will settle to the apex of the cone, and not be properly diffused through the substance. When perfectly hard these cones should then be pared or scraped at the base, until they weigh just one drachm,—giving one grain of opium to each suppository. Practically, therefore, it will be necessary to make one less than the required number,—reserving the parings for another operation.

The following formula has been prescribed by Dr. Pancoast:

Take of Cocoa Butter, 3 i.
Extract of Krameria, 3 ii.
Powdered Opium, gr. v.
Mix and make into ten suppositories, as above.

It is stated that cocoa butter is much esteemed in France, for its supposed healing qualities, and is a favorite application in cases of piles. With powdered galls, or tannic acid, this substance would therefore probably form a useful substitute for the ordinary pile ointment. The proportions to be employed, would of course be regulated entirely by the physician's order.

In Dorvault's French work on "Practical Pharmacy," supposi-tories are described as varying from the size of the little finger, to that of the thumb; and weighing, from 3 i¼ to 3 ii¼; (five to ten grammes.) The author gives a formula for the

* These moulds should be made of sized or writing paper, and may be conveniently placed in shallow boxes of sand, to preserve their position.
vehicle, butter of cocoa melted with an eighth part, by weight, of white wax: or as an inferior substitute, and one less used, common tallow mixed with the same proportion of wax. Soap suppositories are formed by simply cutting soap into convenient shapes. Suppositories are also prepared from honey, by boiling down this substance till it becomes sufficiently hard to retain its shape. There are also formulæ given for anthelmintic, antihemorrhoidal, astringent, emmenagogue, laxative, and vaginal suppositories; as well as belladonna, calomel, cicuta, mercurial, and quinine suppositories.

In Gray's "Supplement to the Pharmacopoeia," there is given the following formula for a suppository; taken from the Codex Medic. Hanberg, 1845.

B. Aloes, 5 vi.
Common Salt, 5 iss.
Spanish Soap, 5 iss.
Starch, 3 viii.

Mix and make into a mass with honey, and then form into cones of the required size.—[American Jour. of Pharmacy.

Charcoal Cushions for Deodorization.

A. S——, a patient under my care in the Hackney Union Infirmary, has for some time "passed every thing under her," and thereby become a nuisance and cause of complaint to the other patients in the ward. Eleven days ago, I adopted the plan of placing beneath her a calico bag two feet square, partly filled with Irish peat-charcoal, so as to form a sort of a cushion and absorbing medium. It has had the happy effect—which continues even now, without any necessity for changing the charcoal—of completely neutralizing all unpleasant odor; and if the bed becomes partly wet all the offensive ingredients are absorbed and neutralized by the charcoal, which thus is a most simple means of remedying a great nuisance, and one that requires the most strict attention at best to prevent; and that attention is often difficult and always expensive to procure. In cases of incontinence of urine particularly, and indeed all attended with foetid discharges, cancer, compound fractures, &c., this plan or some modification of it might be adopted with advantage. I have been informed that some of the same material has been placed in the urinals of the South-Western Railway, with equally good results, in the prevention of unpleasant odor; and that even after it had been unchanged for some weeks, the fluid that percolates has been found, by chemical analysis, to contain little or no trace of the organic or saline products of urine. The fact induced me to try it as above. An argument
in favor of its adoption in hospitals and lunatic asylums is, that the peat, after its deodorizing properties are exhausted, becomes more valuable for the purpose of manure, so that its use is without expense—[Boston Med. and Surg. Journal, from Mr. Howell in London Lancet and Dublin Medical Press.

Nævus of the Scalp treated by Tartar Emetic.

Anne Shellard, aged nine months, was admitted into the Queen's Hospital, under the care of Mr. Sands Cox, February, 1851, on account of a nævus situated over the right parietal bone, about the size of a half-crown piece. The mother stated that a slight discoloration of the scalp was observed at birth; that it remained stationary for some time, but eventually began to increase, and had during the last two months attained its present size. There was no pulsation evident in the tumor, which was of a bluish cast, and slightly raised above the adjoining integument. The child's general health was good, and all the functions regular; but a branch of the temporal artery was enlarged, and could be traced almost into the diseased parts. On the third day after admission, Mr. Sands Cox ordered the potassio-tartrate of antimony to be applied, which was accordingly done. In two days, the application having been several times repeated, the whole of the discolored portion was converted into a pustular mass, and this with but little or no inflammation or irritation of the scalp. Poultices were now applied, and in the course of a week there was a healthy granulating surface, which cicatrized entirely three weeks afterwards. The patient left the hospital without any appearance of returning disease, and some time after continued quite well.—[Prov. Med. and Surg. Journal.

Case of a Large Subcutaneous Nævus cured by Vaccination.

By John Woolcott, Esq., M. R. C. S., Surgeon to the Kent Ophthalmic Hospital,

A lady brought to me her infant, a healthy-looking child, nine weeks old, in January, 1848, with an extensive subcutaneous nævus which had existed from birth. The tumor, which was of a blue, livid colour, occupied the whole of the upper eyelid and a small portion of the root of the nose on the right side, and extended upwards upon the brow and forehead as high as the upper border of the orbicularis palpebrarum muscle; outwards and downwards it reached nearly to the tragus of the right ear, and then extended upwards and inwards along the lower margin of the zygomatic process of the temporal bone to the exter-
Novel Treatment of Aneurism.

We have been much interested during the last few weeks in watching the progress of a case of aneurism of the subclavian artery, under the care of Mr. Fergusson, in which a novel and ingenious method of treatment has been adopted. In imitation...
of an occurrence which occasionally happens by accident in cases of aneurism, viz., displacement of the mass of fibrine, or a portion of it, which is usually present in such tumours, whereby, in consequence of alteration in the current of the blood, a spontaneous cure results, Mr. Fergusson has, by manipulation of the tumour, thrown loose a portion of the fibrine in the case alluded to, with the effect of instantaneously arresting all pulsation in the upper limb. In four days a feeble pulsation at the wrist could be detected, but the axillary has been pulseless since. The tumour itself, which was at first about the size of a small hen's egg, has diminished considerably, and the throbbing within is now little greater than in the subclavian artery of the opposite side, while it has become more solid to the touch. To those familiar with the pathology and treatment of aneurism, and especially the fatal results which have hitherto followed all attempts at cure by operation on the subclavian on the tracheal side of the scaleni muscles, we need hardly point out the interesting character of the case now under Mr. Fergusson's care.

[Medical Times and Gazette.

Treatment of Ununited Fracture by the Application of Tincture of Iodine. By Professor Blasius.

Professor Blasius communicated, in 1847, an account of the success he had obtained in the external application of iodine in pseudarthrosis; and in the present paper he furnishes three other cases. The first was a healthy soldier, aged 28, who had suffered a simple fracture of the tibia and fibula. The ends of the bones had continued moveable for six months, when the following tincture was ordered to be applied externally, night and morning:—B Iodin. 3j, Iod. Pot. 31/2, S. V. R. 3j. In three weeks the callus was completely consolidated. In the second case, the fragments of a fractured femur (occurring in a soldier, aged 25) remained movable after thirteen weeks; but became quite firm after three weeks' pencilling with the iodine. The third case, occurring in a boy 12 years of age, was equally remarkable.—[Med. Zeitung. Med. Chir. Rev.

On Foreign Bodies in the Air-Passages. By M. Jobert.

The following is a summary of the principal conclusions with which M. Jobert terminates a series of papers founded on clinical and experimental observation.

1. Foreign bodies tend especially to lodge in the right lung, owing to the direction and dimension of the bronchus of that side. 2. They penetrate when the corde vocales are most
widely separated, and a strong column of air rushes into the trachea, as occurs during the rapid inspirations and expirations in the action of laughing. 3. They traverse the superior aperture of the larynx without raising the epiglottis, which is never closed down upon this, as has been stated. 4. The epiglottis is always raised by virtue of its own elasticity; and its chief office seems to be to direct the passage of certain articles of food, as along a gutter, during deglutition. 5. The bodies traverse the air-passages rapidly, by reason of the laws of gravity, the impulse of the column of air, and their own nature. 6. They are only temporarily arrested at any particular point, and may change their place, until they have excited the inflammatory process which enables them to hollow out a receptacle, in which they become lodged. 7. A peculiar sound is engendered by their presence; and the bronchial secretion is always increased, and may become sanguinolent. 8. A louder respiratory sound, and a more extended vesicular murmur, is heard on the opposite side, than on the side in which the body is placed. 9. Foreign bodies whose size exceeds four lines in all directions, cannot be expelled by the sole efforts of nature, which are only efficacious in the case of very small ones. 10. In dogs, on the other hand, in whom the glottis is on a level with the upper aperture of the larynx, the expulsion of foreign bodies easily takes place, by reason of the dilatability and dimensions of the aperture. 11. In the dead body, foreign bodies pass the glottis with difficulty, even when aided by the impulse derived from a considerable column of air. 12. In the living body, they have to overcome, not only this passive resistance, but the very active resistance of the constrictor muscles of the glottis. 13. It is only quite exceptionally that the operation of tracheotomy can be dispensed with; and it should be resorted to as early as possible, in order to prevent inflammation, local changes, and rapid or slow asphyxia. 14. It is a delicate operation, which should be performed by the successive division of all the tissues, and not by an incision comprising all or the greater part of the soft parts of the region at once. This is the best means of preventing haemorrhage, the introduction of air into the veins, lesion of the thyroid body, &c. 15. The trachea should be as widely opened as possible, so as to facilitate the escape of the foreign body. 16. We can only be certain that the trachea has been opened, when the air escapes with its characteristic sound. 17. When the foreign body does not issue on the opening being made, we must wait awhile, and excite the sensibility of the trachea by the introduction of a blunt body, so as to cause cough and expulsive efforts. 18. The trachea must be more largely opened, when a foreign body of a nature to
swell from moisture has been long retained. 19. Re-union may be obtained by the primary or secondary intention. 20. The union by primary intention may be obtained by simple compression, or by the interrupted suture, this only implicating the dartroid lamella that surrounds the trachea. 21. Agglutination may be produced by another procedure, which consists in traversing the walls of the trachea entirely, or in part, leaving the sutures hanging externally, these coming away from the fourth to the thirteenth day. 22. A plastic production serves as the means of union between the lips of the wound. 23. Cicatization only takes place by means of an intermediate production, and not by the direct fusion of the lips of the trachea. 24. The suture comprising the thickness of the walls of the trachea, may excite inflammatory action both within and without the canal, and give rise to organized fistulae and encysted abscesses. 25. The suture which only implicates the covering, or a portion of the thickness of the trachea, only induces a plastic inflammation, and is to be preferred.—[L'Union Médicale. Ibid.


In the present series of papers M. Trousseau relates the cases in which he has most recently performed tracheotomy for croup. Adverting to his entire experience upon the subject, he states that he has performed this operation altogether 169 times (11 for chronic disease of the larynx, and 158 for croup;) and that 43 of these cases, or a little more than a fourth, have recovered. Among his last 18 cases, however, there have been 8 recoveries, or nearly one-half. The results obtained at the Hopital des Enfans have not been less satisfactory of late; for of 19 cases operated upon, between January and August, 1851, one-half have recovered, and M. Guersant has been as successful in his private practice. M. Trousseau believes that one reason of the greater success in later years is, that now the principles of treatment in these cases are better understood; the children are brought to the hospital in a less exhausted state, their powers not having been lowered by the application of leeches and blisters, heretofore so common. Still more importance, however, does he attach to the modifications he has made in the treatment after opening the trachea. Thus, he has discontinued the application of a strong solution of nitrate of silver to the trachea and bronchi, which he used formerly to insist upon. He now too employs a double canula, so that the inner one may be taken out and cleaned when necessary, without disturbing the
On the Gradual Reduction of Herniae long irreducible. By M. Malgaigne.

In this article M. Malgaigne brings forward two new examples of the efficacy of his plan of reducing old and voluminous herniae. This consists in subjecting the patient to a very low diet and purgation, applying ice or cold poultries to the tumour and employing the taxis daily. One of these cases was an enormous inguinal enterocoele, which had remained unreduced for several years, and now equalled in circumference the size of an ordinary hat. Complete reduction was obtained after continuing the above means for 17 days. The other was an inguinal entero-epiplocele, which had remained unreduced for 7 years, and was reduced completely in 6 days.—[Rev. Med. Chir. Ibid.]

Miscellany.

Anonymous Writers and Personalities.—We took occasion in our May number to animadvert upon the evil of Scientific Journals "allowing their pages to be prostituted by anonymous writers to the grossest personalities and misrepresentations." We stated, in reference to certain of the objectionable articles, that "their style and general bearing show them to be all written by the same pen, and to have been indited in Georgia." We mentioned the name of no person in connection with the matter, nor did we indicate the vehicle of such improprieties, preferring to leave both authors and publishers to appropriate whatever they might deem justly applicable to themselves. Of course none would complain but those who found the "cap to fit them."

Since then, we perceive that a Journal published near the frontiers of Canada, is again filled with scurrilities such as could not be surpassed by anything emanating from Billingsgate—a large portion of which is evidently from the same unworthy source as the articles to which we formerly referred. We understand that this publication has been extensively circulated in this State by being sent to physi-
cians who have not subscribed to it, and who probably never heard of it before. What relates to ourselves, individually, is too palpably malicious and contemptible to provoke any reply; and the prosperous condition of the Southern Medical and Surgical Journal, whose long list of subscribers is continually receiving honorable accessions, is not to be jeopardized by the vain invectives of unscrupulous calumniators. We would, however, for the honor of the Medical Literature of our country, again appeal to the Editorial fraternity to discountenance such violations of decency and propriety.

**Professorial Changes.**—Dr. Thomas D. Mitchell has resigned the Chair of Theory and Practice in the Philadelphia College of Medicine.

Dr. John Bell has resigned the Chair of Theory and Practice in the Cincinnati Medical College, and returned to Philadelphia, in consequence of delicate health.

Dr. Van Buren has been appointed to the Chair of Anatomy in the University of New York—vacated by the death of Prof. Pattison.

Dr Worthington Hooker has accepted the Professorship of Theory and Practice of Medicine in Yale College, in place of the venerable Dr. Eli Ives, who takes the Chair of Materia Medica.

Dr. Mussey has resigned the Chair of Surgery in the Medical College of Ohio, and been replaced by Dr. H. W. Baxley. This school has the good fortune to have secured Dr. Daniel Drake in the Chair of Practice, and Dr. Jedediah Cobb in that of Anatomy,—these two gentlemen having left the University of Louisville.

Prof. Benj. W. Dudley has accepted the Chair of Surgery in the Kentucky School of Medicine (Louisville), in place of Prof. Flint, and Prof. Bullitt that of Practice, lately held by Dr. Annan.

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**BIBLIOGRAPHICAL.**


We have been favored by the author with a copy of his "Outlines of a Course of Lectures on the Materia Medica," which we think well adapted to the wants of the medical Student. The number of lectures which are daily crowded into the space of a few hours, renders such abstracts of great value to the student, as it enables him, by an effort comparatively slight, to recall many important facts
which otherwise would probably be forgotten. On all the subjects of which it treats, Prof. Frost's work furnishes all the most important points, well arranged, and though briefly, yet clearly set forth. But though we thus commend both the execution and plan of the work, it must not be concealed that such works are very liable to be abused by the idle, who manage to procure from them a smattering of the science barely sufficient to squeeze them through the green room. Nevertheless, it would be unjust to deprive the industrious and ambitious student of such helps, because they are liable to abuse. To such we cordially recommend the "Outlines."

G.


This improved edition of the great work of the very popular Philadelphia professor will be welcomed by the profession as the matured production of one whose large experience and love of knowledge must command respect. Prof. Meigs has added much valuable matter to this edition and entirely re-written some of the most important parts of the work. It affords us much pleasure to recommend this American book.


This is an eminently practical work, by an eminently practical surgeon. Although not the equal of Astley Cooper in some respects, the author is generally regarded as a man of very sound discrimination and as an excellent practitioner. His Lectures constitute quite a valuable addition to surgical literature and will be read with advantage by all who devote themselves to this department of practice.


This little work consists principally of plates intended to facilitate the study of the nerves. The lithographs are, however, so badly executed that we doubt that they can be of much use to one not already acquainted with the subject.
PHILADELPHIA, June 24, 1852.

Dear Sir:—The "Transactions of the American Medical Association" at its Session of 1852, will, it is estimated, make a volume of nearly one thousand pages. Notwithstanding the increase in size, the Committee of Publication have not, however, considered it expedient to charge the members of the Association, and the several bodies represented therein, a greater price for the forthcoming volume than was paid by them for either of the four already published. They have resolved, therefore, to furnish to the members, and the institutions represented, one copy for three dollars, and two copies for five dollars; provided, the same amounts are remitted previously to the first day of September next ensuing; after which period the price of the volume will be raised to five dollars.

The Committee of Publication would respectfully suggest the propriety of an early answer to this circular; the funds in the hands of the Treasurer are insufficient to defray the expense of printing the volume of Transactions, and until an additional sum of eleven hundred dollars is received, the Committee will not be warranted in putting it to press.

Respectfully yours,

D. Francis Condie, Treasurer.

Erratum.—Purgative Syrup of Jalap.—In the formula for this syrup in the last number of the Journal at page 169 read "jalap eight ounces" instead of "jalap an ounce."—[Amer. Jour. of Phar.

The above error was copied in our June number, page 381, and should therefore be corrected by the reader.—[Ed. South. Med. AND Surg. Journal.

Hydargyri Iodium Rubrum.

New York, Feb. 10, 1852.

Editor of the American Journal of Pharmacy:

Sir:—Under the article Hydargyri Biniodidum, the U. S. Dispensatory gives as the dose 1-16th of a grain, gradually increased to grain 1-4th.

Under the same head, Christison's work, edited by Dr. Griffith, ed. 1848, gives the dose from gr. i. to gr. iv.

Has this great discrepancy been before detected, and the error corrected?—[Student.

[Note.—The profession will be obliged by the above hint. We had not observed the error before. Since communicating the fact to the Publishers, Messrs. Blanchard & Lea, they have informed us that the error has been corrected in the unsold portion of the edition. All who have the American edition of Christison should make the correction with pen at once, and all Medical Journals should notice it.—Ed. Am. Journ. Pharm.]