

CANADA

MEDICAL JOURNAL

AND

MONTHLY RECORD

OF

MEDICAL AND SURGICAL SCIENCE.

EDITED BY

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CANADA

MEDICAL JOURNAL.

VOL. I.

MONTREAL : JANUARY, 1853.

No 11.

ORIGINAL COMMUNICATIONS.

ART. LVI.—*False Aneurism of the Femoral Artery, the sequence of Abscess—cured by ligature upon the External Iliac.* By S. S. STRATFORD, M.R.C.S.L., Toronto.

In the Spring of 1845, I was called by Dr. Corbin to see a son of Mr. Leek, a wealthy farmer residing in the township of Oxford East, C. W. The boy was about 15 years of age, and was affected with a very large abscess in the right thigh; the whole thigh was greatly swollen, especially its anterior and internal portions, which swelling extended from the groin to the ham. The skin was red, shining, and pitted upon pressure, while an examination distinctly indicated a fluctuation. It had been progressing for a month or six weeks, notwithstanding the means used to arrest it, and now distinctly presented all the indications of a very large and extensive abscess.

I had been called to consult as to the propriety of opening the abscess, and immediately decided as to its absolute necessity; accordingly I made an opening in a dependent position upon the inside of the thigh, about its centre—good healthy looking pus freely escaped, amounting to about a pint—not a drop of blood was lost, and to ascertain the extent of the abscess, I introduced a large probe, upwards, as high as the groin, and downwards nearly to the ham; a tent was introduced into the opening, and a bandage applied around the limb. Upon calling about a week afterwards, I found that the matter which had collected from time to time had been regularly evacuated, and was now but small in quantity: the general swelling of the limb was greatly diminished, and only a thickening remained, which I expected would gradually be absorbed, and the patient would get well.

To my surprise, however, in about six weeks time, I received a message from Dr. Corbin, saying that matter had again collected in the thigh, and he wished that I would come over and open it once more. Accordingly I went to see the patient, and found the thigh greatly swelled—the swelling occupied exactly the same position which the original had previously done—it extended from the groin to the ham. The skin appeared red and shining, but did not pit upon pressure; there was distinctly a fluctuation to be observed; there was something about the swelling that did not present to my mind the distinct idea of an abscess, but that it was an aneurism certainly did not enter into my imagination; there was not the least pulsation present, while its recent history certainly misled both myself and the Dr. into the belief that the swelling was the sac of an abscess again refilled with pus; the consequence was, that we decided upon puncturing the swelling. I selected a spot that I thought the most prominent and likely to make a good opening for the exit of matter, but after introducing the lancet a considerable depth, I found that no pus was evacuated, which created my surprise. Dr. Corbin then took the lancet and introduced it into another spot, and out flowed a stream of arterial blood. I was at once alive to the position of things, which was fully verified by the application of my ear to the swelling; the *bruit de soufflet* was distinct without the stethoscope—in fact, the lancet had entered into an aneurismal sac, which I only had the good fortune to avoid, by sticking it into the condensed fibrine, the walls of the sac. Having placed the finger upon the opening to restrain the hæmorrhage, I considered if the femoral artery could have been wounded by the lancet, but found that such could not possibly have been the case, for the opening was completely out of the line of that vessel, it was below it, and over the *adductor magnus*, while the blood was not propelled *per saltum* from the wound. I was determined to see the extent of the disease, consequently I introduced the same probe into the wound, and found that the aneurism extended to very nearly the same dimensions as the former abscess, from the groin to the ham. Having applied a compress and bandage, I at once pointed out to the friends of the patient the nature of the disease, and assured them that the only chance of saving the life of the boy was to tie the external iliac artery. The friends were first annoyed at our mistake, and refused their consent, but as I assured them the boy would bleed to death in a few days, unless the operation was done, and that quickly; upon a slight hæmorrhage occurring, they changed their mind, and I was sent for to do the operation. Accordingly, on the fifth day after the opening, assisted by Dr. Corbin, I commenced the operation in the following way:—Having placed the patient upon a table with his but-

tocks somewhat raised, I cut through the skin and areola tissue, commencing at about the outer pillar of the abdominal ring, going upwards and outwards, terminating about half an inch above the superior spinous process of the illium, and an inch and a half inwards towards the median line. The aponeurosis of the external oblique was then divided upwards upon a director, the lower end of the external oblique was then raised, the spermatic cord was drawn upwards and inwards with a blunt hook, the areola tissue covering the sheath of the vessels, which were both seen and felt pulsating, was slit up on a directory, the sheath itself was next opened, and an aneurismal needle armed with a ligature carefully placed under the artery. Having assured myself that the ligature was duly placed around the vessel, I tied it with a firm knot, when pulsation below the ligature immediately stopped. A suture was put into the divided edges of the wound, and this was duly supported with straps of sticking plaster. The patient was put to bed, having borne the operation without an exclamation. After the operation, the limb became blue and cold, but by the application of temperate heat for two or three days, the limb completely regained its normal temperature, and the circulation was fully established by the anastomosing branches, no further bleeding occurred, the *bruit de soufflet* had subsided after the operation, and the wound granulated and healed, the ligature coming away about the fifteenth day. By degrees the swelling of the thigh subsided, the fluctuation gradually became more obscure, the skin returned to its natural colour, and in the course of five or six months almost all the thickening and hardness had been dissipated, while the boy used the limb but with little less facility than the left, and at the present time even the slight halt in his gait has entirely subsided. Upon pressing in the groin, not the least pulsation was discoverable in the course of the femoral artery, while a cord like feeling indicated that it was completely obliterated, and save this symptom and the scar made by the operation, not the slightest appearance of the disease is present in the limb.

The reflections which present themselves upon consideration of the case, are first, as to the cause and nature of the aneurism, and secondly, with regard to the operation which it was necessary to perform.

As a sequence of abscess, the aneurism was unique as to its character, and clearly occupied the whole extent of the seat of that disease; the femoral artery must, from the location of the abscess, have in all probability passed completely through its sac, and it must have influenced both that vessel and the profound *afemoris* in their course. I presume that the artery, in this instance, failed to be closed by the effusion of coagulable lymph along their course, as is usually the case under such circumstances; but being completely isolated, it died, the

dead separated from the living parts, so that the patulous mouth of the vessel drove the blood into the old sac of the abscess, which became gradually distended with it, and became an extensive false aneurism; the previous thickening and consolidation of the areola tissue which formed the walls of the abscess, now became the sac of the aneurism, and prevented the blood being diffused through the limb, as in all probability would have been the case at the separation of the slough in the artery, had not the abscess preceded the aneurism, and under such circumstances would have had all the effect and character of traumatic diffused aneurism.

Again, as to the propriety of the operation performed, I think there could be no exception. Certainly the rule in surgery, to tie both the extremities of the injured artery, so plainly and strenuously laid down by my venerated preceptor G. J. Guthrie, Esq., did not hold good in this instance; although the facts in this case might have constituted a variety of traumatic aneurism; yet in all its conditions it bore a more natural semblance to false aneurism. It was maintained by one of the first surgeons in Canada, that the seat of the aneurism should have been laid open, and the two extremities of the artery tied, to ensure against all the chances of secondary hæmorrhage; such might possibly have been the rule, but it was certainly not admissable in this case. How could we be certain when we should find the bleeding vessels, and how many might have presented themselves? Picture to yourself the aneurismal sac laid open, nearly from the groin to the ham, and after you had rolled out the vast clots of black blood, and come upon the thick fibrinous wall of the sac, many bleeding mouths might have presented themselves to your notice; perhaps the extremity of the femoral artery throwing out a powerful volume of blood, next the patulous mouths of the profunda femoris, and perhaps many other branches of the main artery, sending a reflex current, all greatly enlarged, and now preparing to take on their anastomotic duty, as the main carriers of the blood, and nourishers of the limb; and even did you find the bleeding mouths of the vessels, could you possibly have tied them? You would have been obliged to follow their course to where they were truly sound, before you could have put a ligature upon them; no, the idea was fearfully preposterous, and I am convinced, that the only resource was a ligature upon the external iliac; and even was this act contrary to a rule in surgery, but the end has sanctified the means, and points to a legitimate exception to that rule.

ART. LVII.—*Cases in Practical Medicine.* By A. H. DAVID, M. D.,
Physician to St. Patrick's Hospital, &c., &c., &c.

Continued from page 528.

Acute Rheumatism treated by Lime Juice.—The first case I shall mention was one of very great severity. It was that of Elizabeth Connor, and alluded to when speaking of the treatment of dropsy by external diuretics. She was admitted into the medical wards of St. Patrick's Hospital in the early part of last summer, having, according to her account, been suffering for some weeks, from acute rheumatism, which had attacked every joint in her body, and as she was residing in a distant part of the country, could not obtain medical aid, and was on admission, extremely emaciated, from her lengthened and severe sufferings. She could not turn from the position in which she was placed, and indeed, so great were her pains, she shrunk from the slightest touch. After a close and searching examination, I proved to the students, that notwithstanding the number of weeks (6 or 7) she had labored under the attack, there was not yet any cardiac affection, and as the disease was still *acute* it was a good case for trying Lime juice, and I determined to give this remedy a fair and impartial trial, in this—one of the worst cases of rheumatism I had ever met with. The remedy stood the test well, and certainly cured the case, and in a shorter time I believe, than any other remedies would have done. On the day of admission I merely ordered her a sharp purgative consisting of ℥j. Sulphate of magnesia, with $\frac{1}{2}$ gr. Tart. Emet. and on the following day commenced the use of Lime Juice, by giving her ℥ iv. three times a day, which on the second day was increased to ℥ vi. and on the fourth to ℥ viii. each dose. On the 9th day after admission, she was able to turn herself in bed, and bear examination without pain, which she had not been able to do for at least 7 or 8 weeks. I still ordered the same large quantity to be continued, and she went on improving daily, till diarrhœa came on, and fearing the lime juice might be the cause of this symptom, I discontinued it, and gave xv. grs. of Dover's powder immediately, with orders to have the same dose repeated at bed-time. On my visit the next day, I found she had slept well, the diarrhœa had ceased, and she was perfectly free from any and every ache and pain, and asked to be allowed to get out of bed. From this time she went on mending and gaining strength and flesh, till one day having over-exerted herself, the pains returned in the wrists and ankles. These joints were painted over with Tinct. of Iodine, and a full dose of Dover's powder given at bed-time, which quite relieved them, and to show the disposition which existed to rheumatic inflammation in her, I may

mention the same thing happened to her three or four times afterwards, and was always easily relieved by the same means. After a time, the dropsical effusion which I described in my last paper, suddenly made its appearance; there was not any cardiac affection discoverable, nor any structural cause for this symptom, and as then stated, was soon cured by external diuretics. This case is interesting from the great length of time she had suffered from so acute an attack of the disease, before she came under treatment, from there not having been any cardiac affection throughout its whole course, and yet some time after the rheumatic affection had ceased, and she had so far recovered as to begin to talk about returning home, that dropsy should supervene.

The 2nd case is that of Ann Flynn, aged 33, a married woman, admitted into the medical wards of St. Patrick's Hospital, on the — of June. She had been suffering for four days from intense pain and swelling of the wrists and elbows, ankles and knees, and had tried several remedies of her own accord without deriving any benefit from them. These joints were all swollen, and she was unable to move her limbs from the pain. She had not slept from the commencement of the attack. She was immediately put upon ℥viii of lime juice three times a-day. On my visit next day, I found her much the same as on her admission, only saying she did not think the pains altogether as piercing as the day before, so I ordered the lime juice to be given every three hours in ℥iii doses. She slept this night—her second in Hospital, four hours, and had much less pain; the lime juice was continued in the same doses for the next three days, when she was so much improved that I diminished the dose to ℥ii three times a-day. She was able to be up and to walk about the ward, and on the tenth day left the Hospital quite well. I publish these two cases as both were very severe, and both readily cured by this simple treatment, which has lately been so much extolled, and which, from its action, affords proof of the correctness of the opinion first advanced, I believe, by Dr. Todd, that rheumatic fever, as well as gout, is a disease of the blood, and that all the phenomena of rheumatic fever are referable to the presence of lactic acid, which is too freely developed in the system.

(To be continued.)

ART. LVIII.—*Case of Spontaneous Dislocation of the Lens into the anterior chamber of the Eye, producing cerebral derangement. Cure by extraction.* By HENRY HOWARD, M.R.C.S.L., Ophthalmic and Aural Surgeon, and Clinical Lecturer to St. Patrick's Hospital, and Surgeon to the Montreal Eye and Ear Institution.

Mary M., aged 34, servant, unmarried, admitted into the ophthalmic ward of St. Patrick's Hospital, November, 20, 1852. Stated, that since about the first of May, she had been suffering severe pain and inflammation in her left eye, which pain had, for about the last three months, attacked her head, at periods so severe as to deprive her of her senses, and render her life miserable. For a long time, she has had no wish for food, and has had constant attacks of vomiting for the last three weeks. Sight had long since disappeared from the diseased eye, certain that her eye never received any injury, and that it was never inflamed before the present attack. She had taken much medicine at different periods since the month of May.

When she presented herself at St. Patrick's Hospital, her appearance was that of a poor, miserable, emaciated creature, worn out by disease and suffering; she was not able to walk without assistance, and was vomiting every few minutes. Her pulse was small and rapid, varying from 95 to 100, tongue fured. On examining her left eye, I found the whole eye-ball was inflamed, and the lens, with a small quantity of lymph, lying in the anterior chamber. Believing that the cause of all her sufferings was the pressure produced by the dislocated lens, I determined to remove it at once by extraction, and without delay made a section of the lower half of the cornea which evacuated the hypopium at the same time that it enabled me to remove the lens with but very little trouble. The after treatment was the same as that adopted after extracting an ordinary cataract; on the twelfth day, the wound of the cornea was perfectly healed, and all the inflammation subdued; up to that time, all the medicine she took, since her admission into Hospital, was a few alterative doses of calomel and mild aperients. From the moment of the operation, there had been no more vomiting the head symptoms gradually subsiding and completely ceased after forty eight hours. The eye has now the same appearance as the sound eye, and for the last week, sight is gradually returning, an occurrence that I never expected when I first examined her. The remarkable points in this case are: First, all the cerebral symptoms produced by dislocation of the lens into the anterior chamber of the eye, are such as would be found from tumour in the orbit causing distension of that cavity, or what would arise from malignant disease of the eye-ball. Secondly, the lens being spontaneously dislocated as the result of long continued

inflammation, which inflammation must, as a matter of course, produce destruction of the capsule of the lens, is a strange result of inflammation of that part. From the patient's own account, I concluded that the lens was not dislocated from the commencement of the attack, but for the last three months, which was the length of time she had been suffering from severe head symptoms, and lost her sight.

There is no cause in the world to doubt the woman's word, that she never received any injury of the eye, as she bears a most respectable character.

Montreal, St. François Xavier Street,
December 20, 1852.

ART. LIX.—*Hereditary Insanity, characterized by periodical attacks. Sudden death, and Coroner's Inquest.* By GEORGE D. GIBB, M. D., L.R.C.S.I., Lecturer on the Institutes of Medicine, St. Lawrence School of Medicine, Montreal; Honorary Fellow of the Medical Society of Virginia, &c.

Maria S —, a native of London, England, æt about 58, arrived in this country in 1828, and at that time was of sound mind. Her father had been for many years an inmate of a Lunatic Asylum in London, and died at the age of 54.

She had three brothers who also emigrated to this country, all now deceased, and two were subject to occasional paroxysms, which were sometimes so severe as to require bodily restraint, the elder of these two died in August 1849, of serous Apoplexy, the details of whose case were published in the 5th volume of the British American Journal of Medical and Physical Science, and to which I shall have occasion to refer further on.

The younger of these two, died in June, 1831, of Phthisis, æt 37.—Shortly after the arrival of the sister in this country, she astonished and oftentimes alarmed her friends by her strange behaviour, both in manner and speech, so much so at last, that many felt afraid to be alone in her presence. These attacks would come on at particular periods, and were sometimes very violent. When well, however, she seemed different in her behaviour from ordinary people, very eccentric in her conversation and manner of dress. Her elder brother was in comparative affluence on her arrival, and afterwards was in a state of utter poverty, both brother and sister, having to put up with the severest privations. They suffered at times from cold and hunger, and were thus peculiarly exposed to the influence of disease. Four years ago they were taken

care of by a friend, who fed, clothed, and lodged them in her own house, and to whom I am indebted for most of these particulars. The sister during the whole of this time, was subject to a mild attack of insanity every three weeks, which consisted of swearing, incoherent talking, slapping and beating herself about the arms, using threats, &c. She appeared very wild, breathless and excited, her eyes staring, and during the lifetime of her brother, the violence of these attacks were frequently vented upon him. These attacks generally occurred in the night, and were more violent than in the day time. Her appetite was at all times voracious. She had some slight attacks of illness three years ago, and when ill she would crawl under the bed, and there remain until pulled from beneath. She would sometimes converse in a rational manner, but her memory appeared to be terribly deficient. She often fancied that persons wanted to hurt her, and she sometimes seemed afraid of even a child. After the death of her brother, in 1849, she would frequently exclaim that he had been poisoned, and she has been heard to say she would never take any of the Doctor's medicine for fear of being poisoned.

Her periodical attacks every three weeks, have never exceeded 24 hours in duration ; if commencing in the morning she would refuse her first meal, but never the subsequent meals.

The lady with whom she resided, informed me that Miss S — , had never seen her menses during four years of her stay with her, and had even been so for many years before the critical period of her life had arrived.

She complained occasionally of headache, but never severely, and has often passed sleepless nights, which were occupied by wakefulness and constant incoherency of speech until the break of day.

A few days before death, she seemed dejected, more silent, her eyes were staring and vacant, was mischievous and annoying in her behaviour ; she however went about the house as usual.

The morning before death, she did not come down stairs, at her usual hour, and when seen, she said she could not get up. She was, however, helped to rise, partially dressed, and went down stairs, she took her ordinary food and ate very heartily, and at night walked up stairs and retired to rest. On the morning succeeding, 4th March, 1851, a little later than the usual hour of rising, she was found dead in her bed, and had apparently ceased to breathe about 15 minutes, the surface of the body being quite warm.

As she had not been attended before death by a professional man, and her death being very sudden, the Coroner, on being informed of the facts, considered it his duty to hold an inquest upon the body. As I

was the Medical witness chosen in this case, I gave my evidence before the Jury touching the immediate cause of death, and afterwards, in my Report forwarded to the Coroner, embodied the following particulars of the Post Mortem examination, made 30 hours after death.

Externally. The body appeared to be most terribly emaciated; the dorsum of both feet were slightly swelled and œdematous, the chest was remarkably narrow, and the features not at all shrunken. Rigor mortis of the knee joints only.

Head. The vessels of the dura mater were turgid with blood. There was a good deal of sub-arachnoid effusion over the superior and external parts of both hemispheres of the brain, and some effusion at its base. The lateral ventricles were filled with serum, and the quantity measured 9 fluid drachms. The substance of the brain was remarkably firm and white, with the usual punctiform vascularity. In the lateral ventricles, the corpora striata were very soft in comparison with the structure of the brain itself, so much so as to lead me to believe it a morbid state. There was a depression on the posterior surface of the right corpus striatum, where the softening was marked.

Chest. There was commencing ossification of the middle costal cartilages. Numerous and firm old pleuritic adhesions were observed throughout almost the entire left side of the chest, requiring unusual force to break them down, so much so at the apex of left lung, as to produce destruction of its substance on removal, this part and posteriorly was in a state of hypostatic congestion. On the right side these old adhesions were not so numerous, and the lung was more easily removed, the same congested state existed posteriorly as on the left. The substance of both lungs was otherwise perfectly healthy.

Adhesions remarkably strong, bound the right and left aspects of the pericardium to the surfaces of the lungs in contact. On opening the pericardium, it contained about 2 ounces of straw-coloured serum. Circular adhesive bands nearly an inch in diameter, existed between the pericardium and anterior surface of the right ventricle of the heart. On the posterior surface of the same ventricle there was a white patch upwards of an inch in length, and $\frac{1}{2}$ an inch in width. The anterior coronary artery was very much enlarged, its course extremely tortuous and in a complete state of ossification, one portion of the largest part of the vessel for about half an inch in length, resembling a coarse wire under the finger. The posterior coronary was also enlarged and ossified, but not to the same extent as the anterior. The heart was very small, weighing with the arch of the aorta, 7 ounces 6 drachms. Its muscular structure was quite firm and healthy. The cavities were natural, the semilunar valves of aorta and pulmonary artery, with mitral and tricuspid, were perfectly normal.

Abdomen. The strongest adhesions existed between the entire under surface of the diaphragm and all the viscera in contact. The liver was immovable in consequence, and its left lobe extended across towards the left side; it was much congested. The spleen was small, and had some white patches on its surface. The kidneys were pale, the right possessing a waxy appearance on its surface; both were congested, and their capsules were firmly attached. The stomach and intestines appeared healthy, and the bladder was filled with urine. The uterus was that of a virgin, with an absence of the left ovary and fallopian tube.

In my evidence before the jury, I stated as my opinion, that the immediate cause of death, was ossification of the arteries of the heart, and the effusion of serum into the ventricles of the brain.

One of the objects held in view, in publishing this case, is to show the manner in which hereditary insanity may run through a family, and not leave a single member escape; and another, to compare the post mortem cerebral appearances, in 2 of the members of it, a chance which but rarely offers to the same practitioner.

Where insanity may be present in a family, it is undeniable, that it may show itself under different forms, and may terminate in various ways. We see that here, one brother died of serous apoplexy, another of phthisis, and a sister of spasm of the heart? or, of sudden serous effusion into the ventricles of the brain.

Of 4 children, the offspring of the brother who died of phthisis, 3 died of the same disease, (one in infancy, and two above the ages of puberty,) and one is still alive, but *silly*. The mother of these children is alive and in good health.

In the 5th volume of the *British American Journal of Medical and Physical Science*, to which I refer the reader, are the particulars of the *post-mortem* dissection of the brother of Miss S., from which I shall extract the appearances presented in the brain and heart, and compare them in a tabular form, with those of the sister:—

THE BRAIN.

MISS S.

1. Vessels of dura mater congested.
2. Good deal of sub-arachnoid effusion over the superior and external parts of both hemispheres, and some effusion at its base.
3. Substance of the brain firm and white.
4. Both lateral ventricles filled with serum nine fluid drachms.
5. Depression on posterior surface of right corpus striatum, where the softening was marked.

THE BROTHER.

1. Injection of pia mater and arachnoid, and adhesion between the two at the base.
2. An ounce of bloody serum escaped from the base.
3. Brain rather soft. Crura cerebri *very* soft, as if from inflammation. Ramolissement of septum lucidum and fornix.
4. Both lateral ventricles filled with serum.
5. Corpus striatum, upper surface, right side, a cavity the size of a marble.

One essential difference between the 2 brains, is the firmness of the one, and the softening of the other. The other appearances may be said to possess some resemblance to one another. But, what can be said of the depression in the right corpus striatum of each brain? Can this be a mere coincidence? The fact, however, is a very extraordinary one, and admits of no explanation. In that of the brother, the microscopic appearances, denoted the results of inflammation, such as exudation corpuscles, broken up and scattered nerve tubes and fibres, and granular cells. This was not the case with the sister, at least no exudation corpuscles were visible.

THE HEART AND VESSELS.

MISS S.

Heart small: weight 7 oz. 6 dr.
Ossification of anterior and posterior coronary arteries.

THE BROTHER.

Heart hypertrophied with dilatation; weight between 15 and 16 oz.
Ossification of basilar and other arteries of the brain.
Ditto of coronary arteries.
Aorta contained large and solid bony patches, and atheromatous deposits to the bifurcation of the iliacs.
Semilunar valves of the aorta in a similar condition.

If the autopsy of the brother were alone read, without the previous history of his case being known, an observer might class the phenomena presented as a good illustration of the disease polysarcia or obesity, so well described in the lectures of Dr. Chambers in the first volume of the *Lancet* for 1850. The heart and great vessels particularly possessed the peculiarities so often observed in the autopsys of fat people. The heart, which has been preserved in spirits, now upwards of 3 years, has eliminated a very large amount of fat, which floats on the surface of the fluid like a quantity of oil, and has rendered the colour of the spirits almost a brown. The state of this organ, shown in the table above, is reversed in each; and although the coronary arteries were diseased in each, this distinction may be made, that in the sister the degeneration was truly ossific, whilst in the brother, it was atheromatous.

No conclusions of any importance can be drawn from the comparison just made, in the *appearances* presented by the brain, heart, &c. But they prove highly interesting, as occurring in two individuals so intimately connected by blood, and who were hereditarily insane.

Regarding the sister, the periodicity of her attacks may have been due to the irregularity of the menses, produced partly by the congenital deficiency of the left ovary and fallopian tube, or, it may have been due solely as the result of the disease itself. She was possessed of a large

nose, and the olfactory bulbs were absolutely the size of the end of the little finger, the nerves themselves being of the natural size.

From the foregoing details, the following questions arise for solution :—

1. Whether the termination in each case, was in any way identical?
2. Whether there is any bearing in the relation of phthisis to insanity?
3. What form of insanity, the present case may be classed under?
4. Whether the pathological changes in the *structure* of the brain here or elsewhere, were the causes (or results) of insanity? Dr. Burnett considers the *blood* the seat of the disease.

Of these I shall only answer the 3rd. In the Report of the Metropolitan Commissioners in Lunacy, the various *forms* of mental disease are ably distinguished into 9 different disorders.* Of these, the first, *Mania*, is divided into—

- a. Acute mania, or raving madness.
- b. Ordinary mania, or chronic madness of a less acute form.
- c. Periodical or remittent mania, with comparatively lucid intervals.

It is under this third subdivision of mania, the intermittent mania, that I shall class the case, the subject of this paper. The existence of this variety has been much disputed, some medical writers of note denying the existence of lucid intervals altogether. "As the Commissioners justly observe, the fact appears to be, that there are patients subject to occasional paroxysms of raving madness, but who have intervals of comparative tranquillity and rest. It generally happens, however, that after the alternations of raving fits and periods of tranquillity have continued for some time, the intervals become less clearly marked, and the mind is found to be weakened, the temper more irritable, and both the feelings and the intellectual faculties more and more disordered."

With Miss S——, the intermittent form was continued to the end of her life, although it is probable that this might have become changed again in its character, had she survived some years longer.

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* Ranking's Abstract, volume 7. See Dr. Robertson's Report on the recent progress of Psychological Medicine.

ART. LX.—*Observations on the Sanatory Institutions of the Hebrews as bearing upon Modern Sanatory Regulations.* By the Rev. ABRAHAM DE SOLA, Lecturer on Hebrew Language and Literature in the University M'Gill College, &c.

(Continued from page 599.)

The very important caution which Abarbanel cites as to subjecting any of the precepts of holy writ to a presumptuous system of ratiocination, he most certainly does not mean to apply to any inquiries into the nature of the animals permitted or prohibited, since we have seen, and shall yet further see that he himself enters deeply and ably into this subject; and, moreover, particularises the *how* and *where* such an investigation becomes improper or reprehensible. In proceeding, then, to examine presently, the directions of the Levitical law with reference to the birds, we shall dwell for some time upon the analogy existing between the clean birds and the clean quadrupeds, which we think well worthy of notice, and intimately connected with our subject. At present we have to inquire what the other eminent Jewish authority, already quoted, teaches with respect to the permitted and forbidden fishes. Maimonides devotes one paragraph (the twenty-fourth) of the chapter from which we have before translated, to a notice of the distinctive signs of fishes; it is as follows:—"Two signs distinguish the clean fishes, fins*

* It may be necessary here to continue our examination of the text. We notice first, מַיִם *Mayim* and יָמִים *Yamim*, the waters, "from the root יָם *yam*, tumult, as a N. masc. plur; (it has a dual termination,) thus denominated from their being so susceptible of, and frequently agitated by, tumultuous motions," Parkhurst. Wessely in his comment on the 11th chap. of Leviticus, says "the word *mayim* applies to all waters, those of seas, rivers, ponds, and of pits, caves, &c., and even that which are contained in utensils of any sort; for fish can multiply in all, therefore is the word *mayim* used here indefinitely, so as to imply all fish that breed in the water. *Yamim* means the oceans, as it is said "the gathering together of the waters God called *yamim*." * * * *Nechalim* means those streams (rivers) which are the products of the rains and springs alluded to in Ecclesiastes i. Ps. 104.

סֵנַפִּיר *Senaphir* means, according to all, *fin*, and is therefore correctly rendered in the Ang. version and by the Spanish translators as *ala*, by the German, *flossfedern*, *cauda pinna piscis*. Targ.*tsils*. The LXX. have *Pterugia*, wings, probably from the resemblance maintained between it and the wing of a fowl.

קַשְׂסֶט *kasheset* scales; *escama*, "literally, a little piece, so called from its rigidity,"—Park. *Kasskesset* means the skinny portion fixed to the fish, as in 1 Sam. xvii. "with a coat of mail (shiryon kasskassim) he was clad," so writes Rashi, but Nachmanides remarks that these scales cannot be said properly to be fixed to the fishes' skin, but are round integuments which can be removed with the hand or knife, wherefore it is said in the Talmud that *kasskesset* is a dress, * * for as a dress is quickly put off, so may these scales be easily removed with the hand; but this is not so with those which cleave to the skin, [and which circumstance establishes such fishes to be unclean].

and scales; the former enable them to swim, and the latter cleave all over their bodies. All possessing fins, possess scales. If they do not possess these in the first instance,* but they afterwards grow with them, or if they have scales whilst in the water, but when drawn forth, they leave them in the water, they are permitted. Those which have not scales covering the whole of their bodies are permitted; indeed, though they had only one fin and one scale, they are permitted." To these remarks it may, perhaps, be added as worthy of note, that fish with fins being only permitted, there is, so to speak, a connecting analogy herein exhibited between these and the just mentioned superior animals (quadrupeds) which those fishes not possessing fins, most certainly do not exhibit; and whereby, it is perhaps not unreasonable to suppose an inferiority in these finless and scaleless fishes, in respect to their approaching to aquatic or marine reptiles, is implied by the sacred penman. This opinion may be considered as deriving some support from the circumstance that naturalists have uniformly remarked upon the analogy existing between the organs of locomotion of fishes, and those of quadrupeds; thus, the fins of the former, called the *pectoral* or thoracic, from their situation, have been considered as correspondent with the fore feet of the latter; and those placed farther back called *ventral* or abdominal fins, have been conceived to represent the hind feet of the first class of vertebrated animals. The vertical fins on the back are termed *dorsal* fins, and those on the under surface of the body *anal* fins; the fin by which the tail is terminated being termed the *caudal* fin. The membranes of these fins are supported by rays or bands more or less numerous, and those of the pectoral and ventral fins, according to the represented analogy between the organs of fishes and quadrupeds, have been supposed

קפז *skekets* an abomination, particularly what is ceremonially unclean; specially applied to reptiles.

רש *sherets* a reptile, worm; *sherets hangoff* winged reptile, lesser fishes. "The Paraphrast must have concluded this word to mean, particularly, movement, for he translates it רחשה"—Kimchi. Abarbanel says it is compounded of *asher* which, and *rots* runneth. "*Reptile, omne animal quod supra terram non eminet, terrestre aut aquatile ut sunt ranæ, locustæ formicæ, crabrones, vermes et pisces, Gen. 20.*" "The moving things, or as the Greek translatheth *creeping things*. But the Hebrew *sherets* is more large than that which we call the creeping thing, for it containeth things moving swiftly in the waters as *swimming fishes*, and the earth, as running *weazels, mice, &c.* R. Salomon on Exod i., saith that they did bring forth six at one birth. [Rashi says this because of the extraordinarily rapid increase of the Israelites in Egypt, the word in the text being *vayishrets*], and Aben Ezra, that the women brought forth twins and more." Critic, Sacra.

* The Yoreh Deah explains (ch. 83, §1, *comment*) that if the scales cannot be removed readily with the hand or any other instrument, they are not to be accounted as such, and the fishes are to be pronounced, in consequence, unclean.

to represent the toes of the feet. From hence, also, is apparent the expressiveness and propriety of the Hebrew term for *fin* which is סנפיר a pluriliteral, compounded of סנה (Seneh) a thorn, and פר (Par) to break, and of Parkhurst's remark that "the frame or texture thereof gives the reason of the Hebrew name," since the fin of a fish consists of rays, or according to the Hebrew phrase, of thorns *i. e.*, little bones or cartilaginous ossicles supporting a membrane broken or divided into several partitions. Those who would see the analogy ably carried out would do well to refer to Professor Stark's valuable "Natural History," (Ed. Edinb., 1828, v. 1., p. 377,) from which we cannot refrain transcribing his following brief, but flattering, panegyric of our learned co-religionist Bloch. "Among those who contributed to that progress, (of Ichthyology or study of fishes) by accurate representations of the animals, Mark Eleazar Bloch, a Jewish physician at Berlin, deserves to be noticed. His *Ichthyologie ou Histoire Naturelle des Poissons*, in six volumes folio, was published in 1785-95, with 452 colored plates, the greater part of which are accurately drawn and described from nature; and the facts connected with the history, specific differences, and uses of fishes detailed with equal accuracy, have furnished most subsequent writers with a storehouse of information on the subject of the European species. The original edition being difficult to be procured, a small copy in ten volumes, 18 mo, was published at Paris in 1801."

The distinctive signs of *birds* are not supplied us by the Scriptures, though they are by ancient Jewish tradition. In the Talmud, Treat. Cholin (Mish. ch. 3, § 6) we learn "that every [predaceous] bird which strikes its talons into its prey* is unclean: every bird which has an additional claw,† a crop, and of which the internal coat of the stomach may be peeled off [with the hand] is of the clean species. Every bird which [when placed on a perch] divides its toes equally, is an unclean one." Abarbanel when pointing out the means of compensation exhibited in the cases of the wild and domestic quadrupeds, which we have already quoted, thus continues his remarks which have refer-

* דורס *Doress*, according to some, such as do not wait for the death of their victim but eat it alive, and although the common fowl eats worms and reptiles while they yet have life, yet could not the Hebrew term *derisah* be properly applied to this.

† Placed behind and above the front ones; the toes are usually in number four, and never more numerous, sometimes of the external or internal finger one or both disappear, so that only three, as in the case of the Bustard or even two, as in the Ostrich remain. Three of the four toes are generally directed in front, while the fourth is turned backwards. In the family *Phasianidæ*-or Pheasant tribe, the hind toe is placed higher on the tarsus than the front ones, so that only the tip touches the ground, and the tarsus of the male is generally furnished with one or more spurs;‡ in the common fowl.

ence to birds. "There are some of the predaceous birds having sharp claws, [talons] but not having an additional claw above their feet, whereas the feet of clean birds are extended according to the requirement of their manner of walking to gather their food in the fields. They have, in consequence, an additional toe above their foot, that their progress may be not impeded, just like those beasts which have their hoofs fully divided [are distinguished from the beasts of prey]. The clean birds have also a crop [פֶּדַי zephec] and a stomach, the internal coat of which may be peeled off [with the hand] for the re-grinding of their food. In this [preparing their food in the crop and gizzard] they are like unto those which ruminant among beasts, [who also require more than one stomach for the maceration of their food]. The *ngoreb* [raven] is [an exception to the rule among birds] as the swine [is among beasts] having only one of the necessary conditions, viz: an additional claw, and not being properly a predaceous bird, but it does not conform to the rule with reference to its digestive apparatus and the peeling of the stomach above mentioned. There are also of the unclean birds [presenting this contradictoriness] like the camel, *shafan* and *arnebet* [among beasts,] since if they exhibit one of the signs of the clean birds, they do not possess the other; hence the rule 'every predaceous bird is unclean.' Their nature is fierce and intractable, their temperament bad, being nourished by such food only as they hastily tear and swallow, and therefore are they prohibited."

The learned Abarbanel, whose elegant and valuable commentary we continue to select as the able expositor of Jewish tradition affecting the points we are discussing, in the just completed extract, continues to show the remarkably correct acquaintance which the ancient Hebrews had with natural history, more than twice ten centuries since. The admirable adaptation of the feet to the nature and wants of each of the two classes of birds, is, evidently, insisted upon by our author with singular propriety. The reader will please compare his remarks with those in the note on p. 656. He states that an identity exists in the ruminating and digestive apparatus of the clean beasts and the clean birds. For that general reader who may not have paid special attention to the fact, we venture to exhibit the following comparison. The œsophagus in birds beginning at the inferior part of the neck communicates with the first digestive cavity named the *crop*. This first stomach corresponds to the first and second in the *Ruminantia*, viz: the *paunch* and *honeycomb*, (we have shown that for good reasons these receive only one name in Hebrew, and are in more than one respect, identical, even if the second be not a mere appendage of the third stomach, as some have thought). The food remains for a time in this crop.

Below it, the œsophagus is again contracted, and presents further down a second dilatation, called the *ventriculus succenturiatus*, whose internal surface is perforated by a considerable number of small pores. This again corresponds with the *many plies* of the ruminating beasts, and opens below into the *gizzard*, in which the process of chymification is completed. This corresponds with the *reed* of ruminant beasts, and in birds that feed on flesh only, its sides are thin and membranous, but in those that swallow food which is harder and more difficult to digest, it is furnished with strong muscles intended to compress and to grind down its contents. Its inner surface is covered with a sort of almost cartilaginous epithelium. Our commentator refers to certain exceptions to the rule, but to these remarks, pertinent and correct as they are, it will be proper to refer, when considering the nomenclature of the animals. The following observations of Dr. Carpenter in his interesting work on Zoology, will, however, be in itself confirmation sufficiently strong of Abarbanel remarks. "It is impossible not to recognise the obvious analogies between the different groups of Carnivorous Mammalia, and those of the predaceous birds. The bold and powerful eagles obviously resemble the lion and other large felines; the smaller and yet more sanguinary falcons correspond with the smaller felines and with the mustelidæ; the cowardly carrion-feeding vultures resemble the hyæna and wild dog; whilst the owls may be likened to nocturnal viverridæ; we shall find that there are certain species aquatic in their habits, and which are parallel, therefore, to the otters and seals."* Abarbanel thus continues his comment, "Fishes are mentioned by the sacred penman after beasts, because like the latter, they have assigned them two distinctive signs of legality, but which birds have not; those to which I have already alluded, being, according to the tradition of our pious sages, upon whom be peace. These signs of the clean birds are, moreover,

* We are forcibly reminded here of Dr. Paley's remarks in his chapter on *compensation*. "It has been proved by the most correct experiments that the gastric juice of these birds (granivorous and herbivorous) will not operate upon the entire grain, not even when softened by water or macerated in the crop. Therefore without a grinding machine within its body, without the trituration of the gizzard, a chicken would have starved upon a heap of corn, yet, why should a bill and a gizzard go together? Why should a gizzard never be found where there are teeth? Nor does the gizzard belong to birds as such. A gizzard is not found in birds of prey. Their food requires not to be ground down in a mill. The compensatory contrivance goes no farther than the necessity. In both classes of birds, however, the digestive organ within the body bear a strict and mechanical relation to the external instruments for procuring food. The soft membranous stomach accompanies a hooked, notched beak: short muscular legs; strong sharp crooked talons; the cartilaginous stomach attends that conformation of bill and toes, which restrains the bird to the picking of seeds or the cropping of plants."

internal, whereas [to correspond with the cases of beasts and fishes], they should be external, so as immediately to be recognized. The law therefore does not refer to these signs, but mentions the unclean species of birds, the clean being the most numerous. Those birds which are not specified in the text as prohibited, rank under the category of the permitted. In Dueteronomy, Moses, we find, particularises the clean beasts permitted for food, while of fowl he says, 'all clean fowl ye may eat,' in general terms."

The following is the Jewish law of discrimination for birds according to Maimonides in the 1st chapter of his Treatise on Forbidden Meats already referred to. "§ 14. The signs of the clean birds are not explained in the law; but it lays down the number of unclean birds, and all others are permitted. The prohibited are twenty-four in number, and may thus be enumerated. 1. נשר [neshar, generally translated as in the Anglican version, eagle]. 2. פרס [peres, ossifrage]. 3. עוניה [ngosniyah, ospray]. 4. דאה [daah, vulture], which is identical with the ראה [raah, Ang. vers. glede] of Deuteronomy. 5. אייה [ayah, kite] identical with the רייה [dayah Ang. vers. vulture] of Deuteronomy. 6. A species or order of the *ayah*; for it is written in the text 'its kind,' also, from which is established that there are two kinds. 7. עורב [ngoreb, raven]. 8. זרזיר [zarzir, generally understood as a stare or starling Baba, Kama fol. xcii. 2] for it is said, 'the raven after its kind,' to include hereby the zarzir. 9. יענה (בת) [yanganah, owl]. 10. תחמס [tachmass, nighthawk]. 11. שחף [shachaf, cuckow]. 12. נץ [nets, hawk]. 13. שרנקה [sharneka,] a species of hawk, as the text shows, from its employing the term, 'after its kind,' to the hawk. 14. כוס [kos, little owl]. 15. שלך [shalach, cormorant]. 16. ינשוף [yanshuff, great owl]. 17. תגשמת [tinsheet, swan]. 18. קאת [kaat, pelican]. 19. רחמה [rachama, gier-eagle]. 20. חסירה (chaaidah, stork). 21. אנפה [anafah, heron]. 22. A species of the *anafah* as stated in the text. 23. דוכיפת [doochifat, lapwing]. 24. עמלף [ngatalef, bat]. § 15. Every one who is well acquainted with these various species and their nomenclature, may eat of every bird not included in this list, and without examination. Clean birds are eaten on the strength of tradition, it being of course a well established thing in the place where the bird is eaten, that such is a clean bird, and one experienced in hunting [and the names] of these birds gives his testimony to their being clean. § 16. He who cannot readily distinguish them, but is intimately acquainted with their nomenclature can examine them by these signs with which our sages have supplied us; to wit, every bird that strikes its talons in its prey and then eats it, such, it is clear, is of the enumerated species, and is unclean; if it does not this, however, it is yet clean, provided it possess one of these

three signs, an additional toe or claw, or it possess a crop, or that the internal coat of the stomach can be peeled off with the hand. § 17. There is not among all these prohibited species any one that is not predaceous, and having one of these three signs, except the *peres* and *ngosniyah*, and the *peres* and *ngosniyah* are not found in inhabited places, but in deserts and very distant places, and at the utmost verge of civilization. § 18. If the skin of the stomach is removeable with a knife but not with the hand, and the bird [in such a case] has no other sign [of being unclean, although it may not strike its claws in its prey], yet is it a doubtful case. If the stomach be tough, and [the skin] cleave closely to it, but before being exposed to the sun, it becomes soft and easily peeled by the hand, then it is permitted. § 19. The Gaonim, [eminent Rabbis who flourished just after the completion of the Talmud] have declared that they have been traditionally cautioned against teaching the legality of a bird possessing only one sign of its being clean, unless that one sign were that the skin of its stomach was readily peeled with the hand; but if this one sign obtain not, although the bird possess a crop or an additional claw, yet can they never permit it to be considered as clean. § 20. Every bird which divides [equally] its paws when placed on a perch, two one way, and two another; or that he seizes [his food] in the air and there eats it, is undoubtedly of the predaceous kind and unclean; and all which associate with the unclean, and approximate to them [in nature and habits] are unclean." To this the Yoreh Deah adds, (ch. 82, §3), "Some assert that every fowl with broad beak and expanded, [palmated or webbed] feet like those of the goose, is well known to be non-predaceous, and is lawful food, provided it have the three signs. § 4. A person who happens to be from a place where they are accustomed to account as prohibited a certain fowl because they have no tradition, that it is clean, and he goes to a place where they have a tradition that it is of the clean species, he may eat thereof in that place, even if his intention be to return to the other place; and if he went from a place where they pronounce it to be traditionally clean, and go to another place where they have no such tradition, he can yet eat thereof. § 5. Places having no tradition respecting the character of the birds, depend upon those which have, to eat thereof. Some prohibit and some allow, but it is preferable to abide by the decision of those who prohibit." Thus particular are the directions of the Jewish canon, respecting the means of discriminating the clean and unclean birds.

With respect to *reptiles* and *insects*, the law thus directs, "V. 20. All fowls that creep, going upon *all* four, shall be an abomination unto you. V. 21. Yet these may ye eat, of every flying, creeping thing, that

goeth upon *all* four, which have legs above their feet, to leap withal upon the earth. V. 22. *Even* these of them ye may eat, the locust after his kind, &c. V. 23. But all other flying, creeping things, which have four feet *shall be* an abomination unto you. V. 27. And whatsoever goeth upon his paws, [kapav] among all manner of beasts, that go on *all* four, these *are* unclean unto you; whosoever toucheth their carcase, shall be unclean until the even. V. 29. These also shall be unclean unto you, among the creeping things that creep upon the earth, the weasel, &c. V. 42. Whatsoever goeth upon the belly, and whatsoever goeth upon *all* four, or whatsoever hath more feet among all creeping things that creep upon the earth, them ye shall not eat for they are an abomination. V. 43. Ye shall not make yourselves abominable with any creeping thing, that creepeth, neither shall ye make yourselves unclean with them, that ye should be defiled thereby." We cite Don Isaac Abarbanel's comment upon this; he writes—"In addition to its first stated instructions respecting birds, the text adds: 'all fowls that creep going upon *all* four, shall be an abomination unto you,' because there are creatures which now creep the earth like reptiles, and anon fly in the air. All such, the text pronounces an abomination; except the mentioned four kinds of locusts [chagabim] which are permitted.—These go on *all* four, and have legs above their feet,—feet higher than the ordinary ones which they require to leap withal upon the earth; when they desire to jump, they effect it by these feet, raising their wings, which cover the greater portion of their body. The distinguishing signs of these locusts (chagabim) are, that they possess [extra] legs for jumping [pedes saltatoria] four feet and four wings, which cover the greater part of the body, and with a long head—to such is the term *chagab* properly applied. It becomes us to ask here, why is it said 'and ALL fowls that go on *all* four, &c.'? because, the text gives a general rule with respect to all such, and would add, 'these species which I mention, ye may eat, and they do not come within the category of reptiles;' and so after specifying these, it adds, 'all the rest which go on *all* four, shall be an abomination unto you, and shall not by any means be accounted among those of which I have said, even these of them ye may eat'. After mentioning the creatures which may legally be eaten, and those also which are unclean and are to be abominated, the text informs us of those which render unclean all who *touch* them. When it says therefore, 'for these ye shall be unclean' (v. 24) it means for these which will now be mentioned; again the text saith, 'and whatsoever goeth upon his paws, and every beast that goeth upon *all* four,' and not on his *hoofs*, like the dog, bear, and cat, &c. . . . It would seem that the caution [repeated in the 41st verse] that every 'creeping thing, is an

abomination and must not be eaten,' is unnecessary, since it is already given, in a former part of the chapter, but its intent is to show that every reptile besides the eight mentioned above, are unclean and must not be eaten."

Rashi says, "all fowl that creep," [sherets hangoff, v. 20] alludes to those of the smaller and lower order of animals moving upon the earth, such as flies, gnats, locusts, &c. After giving the old Jewish traditional signs of those animals, which may be considered as *chagabim*, and which are quite identical with those given by modern naturalists to the *saltatoria*, Rashi adds "all these signs are to be found in those which come among us, but there are some having an extended head, but not possessing a tail, and yet belong to the species *chagab* [saltatoria] but thus, are we unable to discriminate correctly concerning them. In the 41st verse, there occurs the repetition, [to which Abarbanel also refers] because it implies as exceptions to the prohibition, such insects as are found in *kalisin*, [according to some a species of cedar-fruit or fig; according to others, pulse, Ter. fol. lix. Chol. fol. xvii. 2.] and the maggots in lentiles, which only when creeping upon the ground are prohibited. The expression 'whatsoever goeth upon the belly,' in verse 42, refers to the serpent.—The reduplication of the words 'that goeth, &c.,' in the same verse, shows that the *shilshulin* are to be here included. [This remark of Rashi, it should be observed, is like all we have quoted above as his comment, nothing more than national, traditionary teachings which we may find in the Talmud, chiefly in the treatise Cholin. This last of his remarks, is from this treatise.* R. Benj. Musaphia, in the M. Hearuch, show us that *shilshulin*, means a kind of worm.] "Going upon all four" adds Rashi, "refers here to the scorpion, and the repetition of the word 'all,' shows that the *cheepusheet* [black-beetle, Chol. fol. 67] called in French *escarbot*, is included, 'what hath more feet' alludes to the *nadal* [a reptile having many feet, Chol. fol. lxx., and Erub. fol. viii. 2, according to Mendelssohn, it is identical with the *Iulus* of Linnæus, of which more presently] and the word *sherets* again repeated here, we know to allude to a reptile which have feet [in equal succession] from head to tail, and, which is called *centpied* [centipede.]" Such is the explication of Rashi. In the Beraytah of Torath Cohanim, a very ancient commentary on Leviticus, it is explained, that the first "whatsoever goeth," in verse 27, refers to the monkey tribe, and its reduplication includes the *kofed* (bittern,) *choled* (weasels of the bushes,) and the *adnay hasadeh* [as some understand, wild men; others baboons, &c.] and the *keleb hayham*, sea dog, &c.," all of which are subjects for after remark.

*בשף נמרה דפרק אלו טרפוח בחולין תנו רבנן הולך על גחו זה נחש כל לרבות את השלשול ואת
הדומה לשלשול.

Maimonides after numerating the eight species of *chagabim* or locusts, proceeds to give the traditional signs, which establish them as such. § 22. He who is well acquainted with these and their names may eat of them, but he who is not, examines the three distinguishing signs, which they possess. All which have four legs and four wings, extending the greater part of the length and breadth of their body, and having moreover, two springing legs, is of the clean species; although its head might be long, and it had a tail, it is clean, so long as it is known to be of the species *chagab*. § 23. Such as have not yet wings or springing feet, or wings covering the greater part of their body, but [it is shown] that they will obtain them hereafter when they are grown, then, even at such early state, they are permitted."

We have now shown the reader, perhaps at greater length than his patience might require,—but not more so, than was deemed necessary for a proper appreciation of the subject, what are the rules for discriminating the clean and unclean of beasts, fishes, birds and reptiles, deemed authoritative by the Hebrew people; and it becomes us now to pay some attention to the second point we have to discuss; to wit,—the nomenclature and nature of the enumerated animals. For such of our readers, who may be interested in the subject, we shall take the pains to exhibit a large number of the very highest authorities, both ancient and modern, Jewish and Christian, because, necessarily a more correct opinion is thereby to be formed, and because they will establish one very important fact, with reference to the birds especially, which we cannot pass over.

Our examination commences with the quadrupeds. 1. גמל (*gamal*) camel* T. O. גמלא (*Gamala*), "he cheweth the cud but divideth not the hoof." v. 4. S., J. T. and de R. camello, G. T. Kameel, M. id. B. camelus, D. L. and G. camel, F. camelus, K. id. C. S. id., M. A. id. "The root denotes retribution or return. As a N. a camel from the revengeful temper of that animal, which Bochart shows to be so

* In the examination about to be made, the rendering of the English version will immediately follow the Hebrew name, while other authorities, for the sake of brevity will be expressed by the following initial letters. S. J. T. will mean Spanish Jewish Translators, de R. de Reyna, G. T. German (Christian) Translators, M. Mendelsohn, B. Buxtorf, F. Furst, D. L. David Levy, P. Parkhurst, G. Gesenius, M. A. Moosaph Hearuch, K. Kimchi, R. Rashi, Ab. Ez. Aben Ezra Ab. Abarbanel, T. O. Targum Onkelos, W. Wessely, S. Serrano, C. S. Critica Sacra, Linn. Linneus, Cuv. Cuvier, Carp. Carpenter; and so with other authorities already referred to.

Serrano observes that the Spanish names by which he translates the text, are, except in such cases where tradition has decided, only applied because of their composition and roots representing the characteristics and qualities of the animals whose names he employs. The same is remarked by Wessely before giving a translation to the birds. "We are not familiar and cannot be assured of their names, so I follow the old commentators, some of whom were also in doubt on the matter. Thus I do not lay down the law as a decided thing; but it was necessary to translate them."

remarkable as even to become a proverb among those nations who are best acquainted with its nature. Among other passages from ancient writers, he cites from Basil. 'But what marine animal can emulate the camel's resentment of injuries, and his steady and unrelenting anger?' The reader will be well entertained by consulting the excellent and learned Bochart himself on this animal, v. ii. &c."—P. "It is not the case with the camel that his foot is covered with a shoe-like hoof, and so with the *shafan* and *arnebet*, and therefore the text cannot and **not** add the words 'and is cloven footed;' but in the case of the swine who does possess such cloven foot the words are used,"* Compare v. 7.—W. "The camel's foot is divided into two distinctly marked toes, although not positively cloven, which are fastened to, and rest upon, the elastic pad or cushion at the end of the foot. From this circumstance, it has been a nicely balanced question whether the camel, which chews the cud, can be reckoned among the species called cloven-footed. It seems to be a connecting link between those that are and those that are not."—Pict. Illus. Bib. A peculiarity of stomach is also noticed by Buffon. "Independent of the four stomachs which are commonly found in ruminant animals, the camel is possessed of a fifth bag which serves him as a reservoir to retain the water. The fifth stomach is peculiar to the camel, &c." "Water is constantly retained from the great masses of cells which cover the sides of their paunch, the other ruminants have nothing of the kind—Cuv. Order vi. Bisulca (Pecora Lin) Gen. xxix.—Stewart. It is without horns and of the order Ruminantia."—Stark, &c. R. Ab. Ez. and Ab—the same. Where such unanimity of opinion exists we cannot but see the correctness of the Aglican version..

2. שפן (*shafan*) coney, "he cheweth the cud but divideth not the hoof;" T. O. טבוא (*tapza*); S. J. T. & de R., conejo, which also means rabbit. G. T. & M. Kaninchen; B. cuniculus, mus montanus; D. L. & G. coney; F. mus jaculus Linn. Sept. Choirgrullios. K. id. C. S. id. "The dry, hot nature of the *Shafan* is well known," Ab. "It is accustomed to resort to concealment in rocks, as it is said, 'the *Shefanim* are but a feeble folk, yet they make their houses in the rock.' Again in Ps. 104, 18. The word 'divideth' is in the Hiphil form, participle when applied to the camel, in the future tense to the coney, and to the hare in the preterite, which may be meant to teach this. Do not think that those born without dividing the hoof will hereafter do so, for the text couples the 'not' with the future tense; or that it may have had a divided hoof which is now not distinguishable, for the text joins another 'not' with the past tense." "The meaning of the root *Shafan* is to cover in, conceal. As a noun *Shafan* means a kind of unclean animal, so called from hiding itself in holes or clefts of

* R. Wessely, from whose Hebrew comment this is an extract, next condemns the learned Rashi for his translation of *Parsah*. We do not think that it is at all necessary to prolong such an inquiry, having already fairly given Wessely's reasons for dissent. For our part we do not think the great Rashi's remarkable acuteness and research has at all failed him. He can in this matter be very easily defended, and were this the place, even we would make an humble attempt so to do. We respect Wessely as a classical Hebrew scholar and able grammarian, but we cannot help feeling that in common with but too many modern Jewish critics, especially with his countrymen—while they display much ingenuity—they are but too apt to forget that if different premises are set up, in criticising some of the old *Mepharashim* very different conclusions will be arrived at. We repeat that the translation of Rashi, we think, every way correct and every way defensible by a mere tyro. But nothing is more probable than that an expression should be differently understood by different parties.

rocks. Ps. civ. 18, Prov. xxx. 26. In the second edition of this work, I followed Bochart's interpretation of *Shafan* by the Jerboa, i. e. the *Mus Jaculus* or jumping Mouse; but I am now inclined to embrace Dr. Shaw's opinion, that it signifies the *Daman Israel*, or Israel's Lamb, 'an animal, says he (Travels, p. 348), of Mount Libanus, though common in other parts of this country [namely Syria and Palestine]. It is a harmless creature, of the same size and quality as the rabbit, and with the like, incurvating posture, and disposition of the fore-teeth. But it is of a browner colour, with smaller eyes, and a head more pointed, like the marmot's. As its usual residence and refuge is in the holes and clefts of the rocks, we have so far a more presumptive proof that this creature may be the Shapan of the Scriptures, than the Jerboa, which latter he says, p. 177, he had never seen burrow among the rocks, but either in a stiff loamy earth, or else in the loose land of the Sahara, especially where it is supported by the spreading roots of spartum, spurge—laurel, or other the like plants. Mr. Bruce likewise opposes the Jerboa's (of which he has given a curious print and a particular description in his Travels, vol. v. p. 121), being the Shafan of the Scriptures, and thus sums up his observations on this subject, p. 127. 'It is the character of the Saphan given in the Scripture, that he is gregarious, that he lives in houses made in the rock, that he is distinguished for his feebleness, which he supplies with his wisdom. (See Prov. xxx. 24, 26, and Ps. civ. 18 in Heb.) None of those characteristics agree with the Jerboa: and, therefore, though he chews the cud in common with some others, and was in great plenty in Judea so as to be known to Solomon, yet he cannot be the Saphan of the Scripture. And in a following section Mr. Bruce contends that this is no other than what is called in Arabia and Syria, Israel's Sheep [the Daman Israel of Shaw] and in Amhara, *Ashkoko*, of which animal also he has given a print, p. 139, and a minute description, and thus applies to him, p. 144, the characters just mentioned. 'He is above all other animals so much attached to the rock, that I never once saw him on the ground and from among large stones in the mouth of caves, where is his constant residence: he is gregarious, and lives in families. He is in Judea, Palestine and Arabia, and consequently must have been familiar to Solomon.—Prov. xxx. 24, 26, very obviously fix the Ashkoks to be the Saphan, for the weakness here mentioned seems to allude to his feet, and how inadequate these are to dig holes in the rock, where yet, however, he lodges. These are perfectly round: very pulpy or fleshy, so liable to be excoriated or hurt, and of a soft fleshy substance. Notwithstanding which they build houses in the very hardest rocks, more inaccessible than those of the rabbit, and in which they abide in greater safety, not by exertion of strength, for they have it not, (for they are truly as Solomon says a *feeble folk*.) but by their own sagacity and judgment, and therefore are justly described as wise. Lastly, what leaves the thing without doubt is, that some of the Arabs particularly Damir say, that the Saphan had no tail: that it is less than a cat and lives in houses, that is, not houses with men, as there are few of these in the country where the Saphan is: but that he builds houses, or nests of straw, as Solomon has said of him, in contradistinction to the rabbit, and rat, and those other animals that burrow in the ground who cannot be said to build houses, as is expressly said of him.' Thus Mr. Bruce: and for farther satisfaction I refer the reader to his account of the Jerboa, and Ashkoko. I add that Jerome, in his epistle to Sunia and Fretcla, cited by Bochart, says the Shefanim are a kind of 'animal not longer than a hedge-hog, resembling a mouse and a bear.' (The latter, I suppose, in the clumsiness of its feet). Whence in Palestine it is called *arktomus* q. d. the *bear-mouse*; and that there is

great abundance of this genus in those countries, and that they are always wont to dwell in the 'caverns of the rocks, and caves of the earth.' This description well agrees with Mr. Bruce's account of the *Ashkoko*. And as this animal bears a very considerable resemblance to the rabbit, with which Spain anciently abounded, it is not improbable, but the Phenicians might, from Saphan, call that country Saphania. Hence are derived its Greek, Latin and more modern names: and accordingly, on the reverse of a medal of the Emperor Adrian, (given by Scheuchzer, tab. ccxxxv.) Spain is represented as a woman sitting on the ground with a rabbit squatting on her robe."—P. "That the shafan cannot be identified with the coney or rabbit is very plain. The rabbit is not an Asiatic animal, and it is very far from being solicitous of a rocky habitation, which is the distinguishing characteristic of the *Shafan* mentioned in Prov. xxx. 26. Some, therefore, suppose the Jerboa to be intended. * * The general accuracy of Bruce's account has been attested by more recent observations. It is so much an animal of the rock that Bruce says he never saw one on the ground or from among the large stones at the mouths of the caves, &c., in which it resides. * * They certainly chew the cud as the *Shafan* is said to do in Lev. xi. 5." "They are wise in their choice of habitations peculiarly suited to their condition, and they might be particularly mentioned in this view from the fact that animals of the class to which they belong, are usually inhabitants of the plains. The flesh of the Shaphan was forbidden to the Hebrews: and in like manner the Mahometans and Christians of the East equally abstain from the flesh of the *Daman*." Pict. Illus. Bib. "There is a curious genus of small animals inhabiting the rocky districts of Africa and Syria which is intermediate in its character between the Tapir and Rhinoceros, but presents several points of resemblance to the Rodentia. This is the *Daman* or Hyrax, an active fur-covered little animal; something called the Rock-Rabbit, and probably the Cony referred to in the Book of Proverbs. Its skeleton closely resembles that of a Rhinoceros in miniature, and its molar teeth are formed in the same manner: the feet have four toes, which are tipped with hoof-like nails, whilst the hind feet have three; of which the innermost is furnished with a long claw-like nail. The best brown species are the Cape Hyrax, which inhabits Southern Africa: and the Syrian Hyrax of Syria, Arabia, and Abyssinia. Both these are active, hairy animals, somewhat larger than Rabbits, living in families, and taking up their abode in caves or crevices in the sides of rocks; they live upon the young shoots of shrubs and upon herbs and grass, and they are playful in their habits, and docile and familiar in captivity." According to the same authority the Jerboa is an intermediate link between the Squirrels and Rats, it is distinguished by the enormous development of its hind legs and tail, resembling the kangaroo. It is a native of Syria, &c., known to the ancients under the name of *Dipus*. Stewart ranks the Jerboa among the *Digitata*, and says it burrows in the ground. We have, however, made this investigation much longer than proper for the limits we should set down. The result of an extended inquiry, has led us to adopt the opinion that the *shafan* is identical with the *Daman* or *Hyrax*, and although this is now classed by the most respectable naturalists, among the order *Pachydermata*, which as an order of the *Mammalia* do not ruminant, yet is it to be remembered that the same authorities show us that the ordinary *Pachydermata* (under which the *Daman* is classed) "approximate the Ruminants in various parts of the skeleton, and even in the complication of the stomach" and "the stomach of the *Damans* is divided into two sacs; their cœcum is very large, and the colon has several dilatations, and is also furnished with two appendages about the middle analogous to the two cœca of birds," see Cuvier, *Règne Animal*.

(To be continued.)

ART. LXI.—*On Oxygen Gas as an Antidote to the deleterious effects of Anæsthetic Agents*—by S. Abrahams, M. D., of New York.

[The following communication was addressed to a friend who has kindly handed it to us for publication.—Eds.]

An accident which happened last season in this City: (New York) as similar occurrences have often previously done, has brought before the medical profession, a remedy or antidote to the deleterious effects of chloroform, as an anæsthetic, which promises, in point of usefulness, to be second only to that of the discovery of anæsthetic agents themselves.

The case is as follows: a young man attached to the Laboratory of the New York Medical College, became asphyxiated from the inhalation of the vapour of chloroform, and so far had its effects been carried, that he became pulseless and all hopes of his resuscitation, abandoned, and as all the usually recommended remedies had been tried without any success, nothing but the death of the young man was looked for, when I proposed as a *dernier resort*, the application of *pure oxygen gas*, as the only chance by which resuscitation could be brought about; but at the time the proposal met with opposition from the medical men present, who were anxiously watching what seemed to be the expiring efforts of the poor boy, expecting each moment to be his last. Having however consented, the gas had not been more than a few seconds applied to his nostrils, when he who was apparently beyond the help of human aid, and absolutely *in articulo mortis*, arose and placed himself on a chair, proving most conclusively, how correct I was in proposing the application of oxygen gas as a remedy against the deleterious effects of chloroform as an anæsthetic.

I am inclined to believe, that the same agent might be used with advantage in cases of drowning, where the body has been recovered from the water while it is still warm, and I am sanguine of its success where persons are suffering from the inhalation of the fumes of charcoal or from the fixed air (carbonic acid) of pits, mines, &c. I might mention that oxygen gas is almost instantaneously generated from the chlorate of potash, or what is always more readily obtained, nitrate of potash. Either of which placed in a metallic spoon or shovel and held over a gentle heat will evolve the gas most profusely.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Outlines of Chemistry for the use of Students. By WILLIAM GREGORY, M. D., Professor of Chemistry in the University of Edinburgh. First American from the second London Edition. New York, A. S. Barnes, & Co., 1852, p. p. 614. Montreal, Sadlier & Co.

THIS Work has been long a favorite among the Profession, and as a text book, is in great demand with the Medical Student.

It is divided into two parts, generally separate in the English editions, but in the present, united into a single volume. The first part is exclusively devoted to Inorganic Chemistry, and the second to Organic Chemistry. The latter occupies more than one-half of the work, a space proportionate to its importance, and to the share of time allotted to it in the author's lectures.

We find the omission of those subjects classed under the head of Imponderables, namely :—Heat, Light, Electricity, and Magnetism, and the author states as a reason, that for nearly ten years past, he has been in the habit of treating these subjects very briefly, partly because they belong almost entirely, to the province of Physics, an opinion in which we concur to some extent ; but also, and chiefly, because the enormously increased extent and importance of chemistry, especially of organic chemistry, rendered every moment of time, in a course of lectures, precious in the highest degree. It has been our own experience to attend lectures on chemistry, with a larger portion of time allotted to the Imponderables, than was truly consistent with justice to the course, as inorganic chemistry was merely reviewed hastily and as it were quickly got rid of at its termination. And at the same time, the Professor of Natural Philosophy was recapitulating a great deal of what had already been gone over by the chemical lecturer. We think it proper, however, that a short explanation of these subjects should be given in a work like the present, in relation to their most important bearings on chemistry.

There is one more feature of this work, to which we would direct attention.

In describing chemical processes, or chemical changes, our author has, as a general rule, added to the verbal description, a representation of the re-action in the form of an equation, exactly as he is in the habit of doing in his lectures. The use of such equations enables us to place the most complex reactions in the clearest point of view ; and they also

furnish data for all the calculations which are so often required in the laboratory.

The present work is exclusively designed for the use of Students attending lectures on chemistry, and is well adapted as a text book. It is more convenient than the larger elementary works, and is especially useful from the very well arranged manner in which the subject is divided and considered. A most copious and correct index is added, besides the synoptical table of contents, which must prove of great assistance, and without which it is sometimes a great labour indeed, to refer to any work.

We most cordially recommend the book to students attending lectures, and even to the Practitioner, who will find embodied all the discoveries in chemistry to the present hour, more especially in the inorganic kingdom.

SCIENTIFIC INTELLIGENCE.

SURGERY.

Plaie Pénétrente du poumon suivie de guérison.—Par le Dr. DELÉRY.

Le 13 du mois dernier je fus appelé pour voir M. B***, âgé d'environ quarante ans, qui venait de recevoir plusieurs blessures, une entre autres, qui avait pénétré dans le poumon gauche au niveau du cœur, à trois ou quatre pouces en dehors de cet organe. Lorsque j'arrivai, M. B*** était étendu sur son lit, d'une pâleur extrême, et dans un état de grande excitation. Le Dr. Dalton, arrivé avant moi, l'avait trouvé évanoui, presque sans pouls, et comme près de rendre le dernier soupir. Quant je l'examinai, le pouls était revenu, mais il était encore faible; la peau était fraîche et la figure couverte d'une abondante transpiration.

On n'entendait aucun souffle vésiculaire du côté gauche, et il n'était possible de percevoir les bruits du cœur qu'à la région épigastrique, signes certains d'un vaste épanchement à l'intérieur. La respiration était courte, gênée, souvent interrompue par une petite toux sèche et douloureuse qu'accompagnait un jet de sang et d'air qui se faisait par la plaie. Celle-ci était étroite et triangulaire; le sang continuait de s'écouler en nappe quand le malade cessait de tousser; il en sortait aussi par la bouche.

Cependant la réaction s'opérait, le pouls devenait fréquent et dur. Une heure ou deux après notre arrivée, il se fit, vers la tête et les poumons, un raptus de sang qui menaçait de produire la suffocation. La respiration devint presque impossible, et le malade manifestait, par des

signes, le besoin d'air qu'il ressentait. Il éprouvait, en outre, une douleur aigue qui occupait tout le côté gauche et s'étendait, en arrière, jusqu'à l'omoplate.

Traitement. Saignée d'une livre, application de compresses d'eau froide sur la plaie, repos absolu, boisson froide, défense de parler.

Le 14 à sept heures du matin, nous revoyons le malade le Dr. Dalton et moi : la nuit a été assez tranquille, mais pas de sommeil, un peu d'oppression, douleur aigue à la région précordiale, le pouls est redevenu fort et dur. *Prescription...* application de 8 ventouses pour tirer une livre de sang. Vers dix heures, suffocation imminente : on court chez le Dr. Dalton qui demeure dans le voisinage ; il pratique une saignée d'une livre et demie à deux livres ; il en résulte un grand soulagement. Le soir rien de nouveau, toujours un peu de gêne dans la respiration. Pendant la journée du 15, rien de notable ; le 16, le malade demande à manger ; on lui accorde du bouillon avec un peu de pain rôti : il se lève et se met dans son fauteuil. Le 19, le mieux continue, mais il se plaint toujours d'un peu d'oppression et de la même douleur au côté...vésicatoire sur le point douloureux, application sur la partie dénudée d'un huitième de grain de morphine deux fois par jour ; la douleur disparaît, M. B*** reprend ses occupations avec ménagement : les bruits du cœur commencent à se faire entendre distinctement ainsi que le souffle vésiculaire. Le 20 le mieux se maintient, le 21 nous cessons de le voir.

Je dois noter que le premier et le second jour la difficulté pour uriner était telle que nous fûmes sur le point d'avoir recours au cathétérisme. Cette difficulté tenait à la douleur occasionnée par les mouvements nécessaires pour l'émission de l'urine : il y avait quatre autres blessures, peu graves, il est vrai, mais suffisantes pour rendre les mouvements du corps douloureux.—*L'Union Médicale.*

PATHOLOGY AND PRACTICE OF MEDICINE.

WHITE CELLS IN THE BLOOD.

Dr. Quain presented, under the microscope, a specimen showing an excessive number of white cells in the blood. Dr. Quain said that the red globules would be seen to have accumulated as usual in rouleaux ; and throughout the rest of the field were numerous white cells, considerably larger than the red ones, and containing granules or nucleoli. The blood which furnished these appearances was taken from a man 37 years of age, who served as butler in a gentleman's family. His habits were temperate, and till the last twelve months his health had

been good. Since that time, however, he had suffered from a cough and shortness of breathing, which latterly had become more distressing. Dr. Quain discovered, on examination, that several absorbent glands in the neck, axilla, and groin were enlarged and succulent, that a small quantity of fluid was contained in the peritoneal sac, that there was considerable increase in the size of the spleen, and some enlargement of the liver. His legs and feet were œdematous. He passed about two pints of urine daily, which was turbid and loaded with lithates, but free from albumen. No evidence of pulmonary phthisis could be obtained, although the patient seemed inclined to think he was suffering from this disease. Alkaline diuretics, combined with spirit of juniper, were prescribed; and under this treatment the œdema of the legs diminished, and the urine became clear and healthy. The man is now slowly regaining strength. Dr. Quain related another case in which a similar disease of the blood existed; it was of a woman aged 45, the wife of a publican, who had borne eleven children, and, eighteen years before, when resident in Bedfordshire, had suffered from ague. In March last, she first began to suffer from pain and swelling in the abdomen, since which she had never been in good health. She first saw Dr. Quain on the first of September last, and at that time the menses were suppressed. The liver and spleen were enlarged; some ascites existed. The blood was found to contain the large cells mentioned in the preceding case, and, in addition, all the blood globules presented a more or less granular character, owing, apparently, to a puckering of the margins of the cells. The globules did not aggregate as usual. The patient was seen only once, and that as an out-patient. It appeared, on a subsequent inquiry made after her, that she died a few days subsequently.—*Medical Times & Gazette.*

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

An inquiry into some of the relations between menstruation, conception, and the influence of lactation in causing abortion; founded upon an analysis of the histories of one hundred women. By ROBERT BARNES, M.D. (Lond.,) Obsteric Surgeon to the western general dispensary, and late lecturer on Midwifery.

Mr. ROBERTSON, quoting Haller, and Dr. Blundell, seems to lean to the opinion that the belief in the protective influence of lactation against conception is limited to the vulgar, and not generally participated in by physiological or obstetric writers. This is hardly a correct conclusion. I am disposed to believe that most obstetric authorities share in the popular belief, that conception does not ordinarily occur

during lactation ; but it is almost certain that very imperfect ideas prevail about the extent to which the law is invalidated by exceptions. One author at least, Dr. Tyler Smith, enters somewhat elaborately into the physiological reasons which determine the alternate activity of the ovaria, of the uterus, and of the mammæ. He illustrates this subject by describing the successive phenomena of ovulation, gestation, and lactation, as forming a great genesial cycle, fulfilled by the successive functional activity of the organs of generation.

It is not my purpose to dispute the existence of such a law, but simply to endeavour to determine by numerical researches the *extent* to which the functional activity of one of the generative organs excludes that of the others ; to elucidate some of the reciprocal actions of the generative organs, and some of the consequences which result when the functional activity of the ovaria, the uterus, and the mammæ, are in contemporaneous operation.

I scarcely deem it necessary to remark, that the endeavour to bring even the apparently best established physiological law to the rigorous test of numerical analysis, is seldom a superfluous or unfruitful task. If, to use the present instance, we assume it to be a law that the ovaria, the uterus, and the mammæ have each their appointed successive period of activity, it must still be a matter of interest to determine the exact extent to which that law prevails ; to ascertain the relative proportion of the exceptional cases ; and to trace the effects which flow from these accidental deviations from that which is presumed to be the normal course.

Previously to the investigations of Mr. Robertson, of Manchester, (1831,) followed by those of Dr. Laycock, of York, (1842,) no accurate data having any bearing upon this subject existed. Mr. Robertson concluded, from the facts he had collected, that "there will elapse an interval of from *twelve to fifteen months* from parturition to the commencement of the subsequent pregnancy," in seven out of eight women who suckle as long as the working classes in this country are in the habit of doing. He considered that the law was proved, but it is obvious that he encountered numerous exceptions. Dr. Laycock's inquiries afforded results similar to those of Mr. Robertson. Taken together, the inquiries of Mr. Robertson and Dr. Laycock afforded sufficient evidence of the existence of the general law that mammary activity excludes or retards the activity of the ovaria or uterus, while at the same time they place in a clear light the fact that the law is very far from being uniform in its operation. Dr. Laycock's inquiries were limited to the object of ascertaining to what extent lactation operates in preventing conception ; Mr. Robertson sought, in addition to

this, to ascertain the extent to which lactation operates in preventing menstruation. The series of observations which form the basis of this paper, embrace both these objects. The facts relating to the question of the influence of lactation in preventing menstruation and pregnancy, correspond to a greater extent with those of Mr. Robertson and Dr. Laycock. The facts in my paper show the proportion of instances, in one hundred women, in which menstruation and pregnancy took place during lactation. One table will further show, what might indeed be anticipated, although Mr. Robertson failed to trace the connexion, that those women who are subject to menstruation during lactation, are also the most prone to conceive during that period. Now, if we admit that menstruation is essentially an ovarian function, then we possess evidence not only of the frequent contemporaneous activity of the mammæ and the uterus, but also of the mammæ and ovaria. But a further analysis of the facts recorded in my tables, will illustrate other reciprocal actions of the generative organs. One striking fact will become manifest, viz., the extraordinary proportion of abortions which follow conception during lactation. When we observe that the attempt to maintain the contemporaneous activity of the mammæ and the uterus, leads to the expulsion of the embryo, we cannot but perceive a strong confirmation of the law, that the ovaria, the uterus, and the mammæ assume an alternate action. The inquiry into this subject of abortion, as connected with lactation, will, I believe, be found to constitute an interesting contribution to the history of abortion. It is a subject to which the researches of Mr. Robertson and Dr. Laycock did not extend.

I will, in the first place, inquire—*What is the influence of lactation in preventing or retarding menstruation?* It will appear from the first table, that out of 100 women, 87 menstruated during lactation. In some of these instances the menstruation returned within one month of delivery; in many, it continued throughout the whole period of lactation, unless, as frequently occurred, it was arrested by a new pregnancy; and in several, lactation could not arrest menstruation beyond twelve months. Indeed, there can be little doubt that in certain women the ovarian, or ovario-uterine actions concerned in menstruation, are very difficult to repress. In no less than four instances, even pregnancy did not prevent menstruation; and it is deserving of remark that in these same instances menstruation attended lactation as well. It will be shown hereafter that such women are more than usually apt to abort. Indeed, it is easy to conceive that the ovarian activity, and the condition of the uterus at the menstrual periods, must imperil the retention of the embryo.

The same table will also exhibit the relation between menstruation during lactation and conception. Out of the 37 women who menstruated during lactation, 24, or two-thirds, conceived. Out of 159 conceptions during lactation, 79, or one-half, occurred among the women who menstruated, while the remaining 80 conceptions fell to the 63 women who did not menstruate during lactation. In many women, again, it was especially observed that the appearance of menstruation during lactation—no matter at what period (in one case as early as five weeks)—was the signal immediately preceding conception. Some, for example, remarked that whensoever menstruation occurred during lactation, then conception ensued; on the other hand, they did not conceive on those occasions when menstruation did not appear. In other cases, it was remarked that lactation had no influence in retarding menstruation beyond twelve months; in such instances it was generally found that the liability to conceive had returned simultaneously.—Of the whole number of women (56) who conceived during lactation, 24, or nearly one-half, were accustomed to menstruate also during lactation. It may be conjectured, also, that in many women conception anticipates the appearance of the catamenia; and hence that some cases, at least, which in a numerical statement must figure among the instances of conception independent of menstruation, may, when rightly considered, be regarded as instances of conception which would not have occurred had the generative organs not been in that condition immediately antecedent to the appearance of the more marked phenomena of menstruation, and which were, perhaps, prevented by conception. But it must be admitted, that, even if we assume that some of the cases classed as examples of conception unconnected with menstruation, are, in reality, instances of the opposite kind; still there remains a large number of cases of women who were never known to menstruate during lactation, even when prolonged beyond the usual period, but who nevertheless conceived. How far these cases can be permitted to weigh as proof against the theory which would limit the liability to conception to the periods immediately preceding or following the catamenia—a function presumed by that theory to mark the maturation of an ovule, and its fitness for impregnation,—I cannot here discuss.—But I may call attention to the circumstance that collections of facts of this kind may have an interesting application in the attempt to elucidate the obscure phenomena of generation.

But, avoiding the discussion of this question in its more philosophical aspects, I must refer to the facts I have adduced, as being amply sufficient to establish the practical point that there is a close relation between menstruation during lactation and conception. Mr. Robertson

would appear to have arrived at a different conclusion upon this point. He says :—"Of those woman who usually conceived while yielding suck, the majority did not menstruate ; in fact, the appearance of the catamenia during lactation did not seem to have any influence in disposing to conception."

The more minute analysis to which I have subjected my cases, will not sustain the opinion of Mr. Roberton. I may, moreover, remark that his opinion is at variance with the rule which obtain in women who are not suckling, and which manifestly indicates that in them there exists a near connexion between the phenomena of menstruation and conception.

The question has a most important practical bearing, the consideration of which I must postpone until after I have examined how far the table I have drawn up contains evidence serving to determine another question, viz.—*What is the influence of lactation in preventing or retarding conception ?*

Out of the 100 women, 56 once or oftener, in the course of their parturiant history, conceived during lactation. These 100 women had had 619 conceptions. Of this number of conceptions, 159, or one-fourth, had occurred during lactation. Hence it may be inferred that in 46 women, lactation had operated as an absolute protection against conception, and that in 450 lactations out of 619 (or three-fourths) conception had been prevented. The proportion of women whom I found had conceived during lactation is identical with that discovered by Dr. Laycock, and only slightly in excess of that arrived at by Mr. Roberton, who found that 81 women out 160 had conceived during lactation. The facts given by Mr. Roberton and Dr. Laycock do not enable me to compare their observations with mine as regards the proportion of conceptions during the lactation to the total number of conceptions.

What is the period of lactation at which these conceptions occurred ?

Mr. Roberton found that of 81 women who conceived during suckling, 42 did not on the average conceive till they have suckled for 19½ months, and that 22 had been in the habit of conceiving soon after parturition. I have arranged my own facts bearing upon this point under three periods. On referring to the table it will be seen that :

	31	conceptions	took	place	under	six	months'	lactation.
	77	"	"	"	"	twelve		
	33	"	"	"	after	"		
In	18	"			the	period	is	not
					specified.			

35 women, therefore, had 107 conceptions under 12 months' lactation. In one instance conception occurred as early as five weeks after parturition; in four instances only was conception noted as having been delayed beyond eighteen months.

There is a problem in the physiology of child-bearing of extreme interest to determine—viz. What is the normal interval between parturition and the succeeding conception in the human female? This is the problem which especially engaged the attention of Mr. Robertson. It involves the question, What is the normal period of lactation? Indeed, if we admit what must be conceded as a general law, however numerous the exceptions observed, that one of the natural effects of lactation is to adjourn conception, then it will follow the determination of the normal duration of suckling will assist us in ascertaining the proper intervals of conception. We may also derive some aid from the consideration of those cases in which lactation habitually protracted seemed to suspend conception for a certain definite period, at the expiration of which, conception regularly took place.

Mr. Robertson deduced from his observations, the corollary, that "in seven out of eight women who suckle for as long a period as the working-classes in this country are in the habit of doing, there will elapse an interval of from twelve to fifteen months from parturition to the commencement of the subsequent pregnancy." If we extend somewhat the proportion of exceptions, the law as stated by Mr. Robertson is probably a near approximation to the truth. It is, however, at variance with another conclusion of that very able author, viz., that the normal duration of lactation extends to twenty-four months. It can hardly be maintained that nature intended lactation to be continued throughout the period of gestation; and yet this contemporaneous support by the mother of one infant at the breast, and another in the womb, is implied, if we admit the truth of both Mr. Robertson's propositions. I shall presently place in a striking light the fact that Nature revolts against the attempt to load her with this double burden.

Neither am I prepared to assent unreservedly to another corollary of Mr. Robertson's viz.:—"That the secretion of milk is the *cause* which regulates the periods of conception in mankind, as instinct operates to the same end in graminivorous quadrupeds."

It would be more correct to say: The secretion of milk is a means provided *firstly* for the nourishment of the new-born infant; and that during the period required for that purpose, conception is usually suspended. There is another argument which somewhat forcibly illustrates the law that lactation has a direct influence in suspending conception. Many women who, either in consequence of the death of

their infants, or from some other cause, had brought lactation to an abrupt and early termination, and who neither menstruated nor conceived so long as suckling was continued, did so almost immediately on its cessation. The same result is also commonly observed after weaning in the ordinary course. But the efficient cause which presides over the intervals of conception probably lies deeper than this. The duration of lactation has been in all countries, and among the most widely different peoples, determined to a great extent by local or other circumstances, by prevailing customs or modes of life. It is to a certain extent an arbitrary thing. And the striking fact that lactation can rarely postpone conception beyond a certain period, clearly proves that the mere secretion of milk cannot be the *cause* which regulates the intervals of conception. Observation plainly establishes the fact that, in most women, after a certain period dating from parturition there is almost uncontrollable disposition in the ovaria and uterus to resume their proper functions, notwithstanding the forced activity of the mammæ, and the conception takes place.

Mr. Robertson refers to the custom of uncivilized tribes for the purpose of deducing an analogical argument in favor of an extended period of lactation. He cites one class, consisting of the Mexicans and other American tribes, who suckled their children for three years, and who were not allowed to cohabit with their husbands till after weaning. In the other class, comprising the Greenlanders, the tribes of Northern Asia, and numerous others, this temporary divorce does not obtain; but in them also suckling is continued for two years and upwards.

I believe the customs which may prevail upon this subject among barbarous or semi-civilized nations, supply no better evidence of the intentions of nature than do the customs of European women. Many a similar fallacious argument in obstetrics has been drawn from this reference to a presumed standard of nature. But it would not be difficult to show that no people pursue a life more exposed to the influence of external agencies, more artificial, and more widely different from that indicated by nature and by reason as the best fitted for the physical and moral attributes conferred upon man. The life of the savage approximates to the life of the brute creation. The nomadic habits, the dangers of the chase and warfare, and the frequent scarcity of food inseparable from savage life, give rise to a policy of Necessity, but which cannot be natural—of repressing by every possible means the increase of children. It is to this end that lactation is protracted among them beyond the limits usually observed in this country. In the first class of uncivilized tribes referred to by Mr. Robertson, among

whom the women live apart from their husbands during suckling, the object in view is evident enough. In the second class, lactation is kept up with the same object, although it is often defeated. It must also be remarked, that the most authentic intelligence we possess concerning the habits of barbarous tribes, places it beyond a doubt that the policy of repressing the increase of children is still further carried out in the revolting practices of artificial abortion and infanticide.

We cannot, therefore, accept the evidence afforded by the customs of barbarous tribes, in seeking to ascertain the normal duration of lactation. But we are not without other means of forming an opinion. Many women cannot succeed in prolonging lactation beyond a certain time: which having arrived, the milk falls off, or becomes thin and watery, losing the proper character of milk, and no longer agrees with the infant. The period at which this happens is mostly, I believe, about twelve months after delivery. About this time, also, it is generally observed that the infant is furnished with teeth, which, if not adapted for mastication, at any rate assist in the prehension of food of more consistency than milk; and it is commonly observed that about this time such food has become more essential to his health and growth. Another argument may be drawn from a circumstance frequently observed, of which there are several instances in my tables—viz. that at the end of twelve months, menstruation spontaneously returns, and conception is apt to occur, as if at this period the proper term of lactation had expired. In the absence of any more exact data, it is not unreasonable to accept such indications. They incline, I believe, to fix the normal period of lactation at from twelve to fifteen months.

In 80 women I found the average duration of lactation to be $12\frac{1}{2}$ months. The average duration of 36 women who did not conceive during suckling, was 13 months; of 39 women who did so, 12 months. Mr. Robertson found the average age for weaning their children was $14\frac{1}{4}$ months for the women who had not conceived during suckling; and $15\frac{3}{4}$ months for those who had conceived once or oftener while so engaged. This result is opposed to mine; and it is also, I think, contrary to what might be anticipated. Those women who find that whilst suckling they do not become pregnant, will be likely to protract that function; and accordingly, in my tables, there are no less than five women who did not wean under two years. On the other hand, those women who do conceive while suckling, will frequently bring that function to an abrupt termination on making the discovery that they are pregnant. I have recorded one case in which suckling was arrested in three months from this cause.

I now proceed to examine another most interesting question—one

upon which the facts I have collected throw a forcible light—viz., *What is the influence of lactation in causing abortion?*

Out of 100 women, 41 had had abortions; of these 16 had conceived during lactation. The 41 women had had 74 abortions; of these, 27 followed conceptions during lactation. It thus appears that the proportion of fœtal abortions to total conceptions, was 12 per cent.—The proportion of abortions following conceptions during lactation, was 17 per cent; and the proportion of abortions unconnected with lactation, only 10 per cent. This large excess of abortions following conceptions during suckling, places beyond a doubt the influence of lactation in producing that event.

It is a matter not without interest in a pathological and therapeutical point of view, to inquire in what manner lactation operates in conducing to this result. A very acute and ingenious author ascribes the most important effects to irritation of the mammary nerves. The following quotation expresses the views of Dr. Tyler Smith:—"Irritation of the mammary nerves may produce abortion. That cause is seen in operation in cases of undue lactation complicated with a second pregnancy. Cases occur in which, during prolonged lactation, two or three conceptions and abortions follow each other, the latter being caused by the irritation of constant suckling. The question naturally suggests itself whether it is not the constitutional debility, rather than the local irritation, which induces abortion in these cases; and there can be no doubt that this, like many other anæmic conditions, may help to produce the accident. There is, however, over and above this, mammary irritation as a distinct cause."

Observation and reflection alike lead me to conclude that lactation leads to abortion by impairing the health of the mother, and to assign a very subordinate influence to the irritation of the mammary nerves. The theory of mammary irritation, indeed, as expressed in the passage I have quoted, is so qualified, that it can scarcely be entitled to be recognised as a distinct cause. The remark that irritation of the mammary nerves may produce abortion, is limited to instances of "*undue lactation*," of "*prolonged lactation*," complicated with a second pregnancy. If mammary irritation operates only under this condition, it has of course no independent efficiency; and we must look to those changes brought about in the maternal system and in the ovum for the real agents. In order to prove that simple mammary irritation may operate in producing abortion, it would be necessary to show that abortion is a frequent occurrence in the *early* months of suckling—a period when mammary irritation is the greatest; it should be observed in healthy women, and the embryo and envelopes should be sound. I

will venture the remark that such a combination of circumstances is of rare occurrence. It is true that the influence of suckling in causing contraction of the womb is most remarked immediately after delivery ; and that the contractions so induced have a sensible effect in constricting the uterine vessels, and in expelling clots. Some women also experience for some time after delivery, at every application of the infant to the breast, some degree of uterine pain, and sometimes even a discharge of blood. But it is equally true that in most cases this responsive sensibility of the uterus to mammary impressions, gradually lessens as the interval from parturition increases. By the time that another conception has occurred, it is probable that the uterine susceptibility to such impressions is small. I do not remember ever having observed a case of abortion, in which all the circumstances were properly inquired into, without detecting some alteration of the ovum, or some diseased condition in the mother. The healthy ovum clings to the healthy parent with remarkable tenacity, defying the most long-repeated, as well as the most violent impressions upon the nervous system to dislodge it.

I may, however, here remark, that there is not a mode in which mammary irritation does appear to have a direct influence in producing abortion. In some women, as I have before observed, the application of the child to the breasts causes a turgescence of the uterus, sometimes to the extent of effusion of blood from its walls. It is clear that when this occurs, the adhesion of the ovum is imperiled. But this is a mode quite distinct from simple excitation of the diastaltic function.

There is one circumstance which throws considerable light upon the excessive frequency of abortions following conceptions during suckling, which I have deduced from the analysis of my cases. I have already shown that those women who menstruate during lactation are the most prone to conceive. They are also the most prone to abort. Out of twenty-seven abortions following conceptions during lactation, no less than nineteen occurred in women who were accustomed to menstruate during suckling. It is not unreasonable to infer, that it is to the excessive functional activity of the ovaria and uterus in these women, that the frequency of abortion in them is to be attributed. Ovarian irritation, then, *to the point of exciting the menstrual secretion*, is a much more frequent cause of abortion than irritation of the mammary nerves. Dr. Tyler Smith has also expressed the opinion, that certain cases of hæmorrhagic menstruation are, in reality, cases of abortion in which the ovum escapes unobserved, pregnancy not being suspected. My own observation distinctly confirms his position, that abortion mostly happens at the menstrual periods.

But according the first place in the production of abortion during suckling to ovarian irritation, the second must, I think, be given to the anæmic condition of the mother, induced by the double tax called for by the demands of the fœtus in utero on the one hand, and by the infant at the breast on the other. I believe that few women are able to bear this double burden with impunity. In some instances, the attempt to continue lactation after conception, *cannot* be persevered in. A constitutional revulsion occurs, which at once, and imperatively, announces that persistence is useless. The woman is seized with sickness, languor, and loss of strength; she feels that she is unable to continue. The milk all at once disagrees with the infant. Diarrhœa ensues; and if suckling is persisted in, it falls off. But when such marked indications do not manifest themselves at the outset, others not less important arise if suckling is long kept up after conception. I have constantly remarked, in women who were making this unnatural call upon their resources, a pallid, care-worn expression of features; emaciation, or flabbiness of the soft tissues; a feeble pulse, easily hurried by the slightest cause of mental disturbance; palpitation, excessive nervousness and lassitude, and pain in the back, between the shoulders. Auscultation seldom fails to reveal the ordinary indications of anæmia. Bearing upon this point, I endeavoured to ascertain the effect of a second conception upon the secretion of milk. The facts I have hitherto collected are imperfect. In some instances, no great change in the quantity was noticed. In many the milk fell off in quantity; and in some it was arrested altogether. When abortion happened, the flow of milk was sometimes restored. If the quantity of the milk is so sensibly affected, it is not less certain that it becomes deteriorate in quality. The effete materials resulting from the utero-placental circulation, are thrown into the maternal blood, constituting a direct source of injury to the infant at the breast. The drain upon the system, through the mammary secretion, operates further by abstracting from the blood those nutrient elements which are requisite for the development of the fœtus. When the blood is subject to these sources of contamination and impoverishment, the assimilative and secretive functions necessary to restore its condition soon become impaired. A degraded state of the maternal blood operates in the following manner: *firstly*, it is unfitted to abstract from the fœtal blood its eliminada; *secondly*, it is unfitted to impart to the fœtal blood the necessary nutritive elements; *thirdly*, it is a direct source by which impurities are communicated to the fœtal blood, having a positively toxic effect; and *lastly*, the languor or inertness of the current of the blood in anæmic patients, still further disqualifies it from effecting those changes in the fœtal blood, which demand not only a healthy con-

stitution, but a sufficient momentum of the maternal blood, for their production. The ultimate consequence of this combination of circumstances, is, that the fœtus not unfrequently perishes for want of proper nutrition, and abortion follows.

Defective nutrition, or depraved blood, may also give rise to disease of the embryo or its envelopes, of which the most frequent form, I believe, will be found to be fatty degeneration of the villi of the chorion, and so lead to abortion in this way.

The causes of the excess of abortions during suckling may be arranged as follows:—

1. *Ovarian irritation*, determining menstruation.
2. *Mammary irritation*, causing *turgescence* of the uterus and discharge of blood.
3. *Anæmia* of the mother, which may destroy the fœtus, either through degradation of the quality of maternal blood, or through the consequent *inertia of the circulation* of the mother.
4. Superinduced disease of the ovum.

In the preceding remarks I have only sought to account for the abortions during suckling in excess of those to which women are liable under different circumstances. Of course women who are suckling are liable to the same cause of abortion as operate in women who are not suckling; and it is probable that these common causes are even aggravated in intensity by the circumstances attending lactation.

Practical indication.—The facts I have collected, and the conclusions established, have their applications in practice. The first question which forces itself upon our attention is this:—Should suckling be discontinued on the occurrence of a second pregnancy? I refer to what has been said concerning the influence of suckling in causing abortion, to prove the necessity of doing so. But a difficulty arises in the determination of the existence of pregnancy in the early months, when the danger of abortion from the continuance of suckling is most imminent. I have known women who have gone on suckling for two and even three months after conception, in perfect ignorance of the fact. The diagnosis of early pregnancy is always difficult; when it complicates lactation it is unusually so. In some cases, as we have seen, menstruation precedes conception. When this occurs once or oftener, and is then arrested, it is, of course, a valuable indication. But there are numerous cases in which conception occurs without the previous appearance of the catamenia. In such instances the suddenly diminished secretion of milk may justify a reasonable conjecture that pregnancy is the cause. Some women are warned that conception has occurred by the sudden supervention of sickness; others, by that constitutional re-

vulsion to which I have before alluded. As soon, however, as the existence of pregnancy is discovered, there can be little doubt that lactation should be brought to an end. There are three beings—the mother, the infant, and the embryo—who must all suffer by persisting. In the interest of all, weaning is essential.

But there is another case in which I would also raise the question of weaning, and which is more open to discussion. Should weaning be advised when *menstruation* appears during suckling? There are several considerations which weigh in favour of this course. We have seen that the women who menstruate during suckling are exceedingly prone to conceive, and if they conceive, to abort. By weaning, the liability to conceive is, perhaps, not much increased; and, consequently, the hope of averting pregnancy by suckling is small. But the fruit of a conception after weaning is much safer than the fruit of a conception before weaning. In the interest of the future progeny, then, weaning on the appearance of menstruation is plainly desirable. Again, it is not an unreasonable presumption that the return of menstruation is an indication that in the particular individual the time has arrived when the ovaria and uterus, having resumed their natural functions, have superseded the activity of the mamæ; and, as a consequence, it may be inferred that the milk secreted by the mammæ under these circumstances has become unfitted for the nourishment of the infant. Indeed, I have observed in several instances, where suckling was persevered in after the return of menstruation, that the milk alone was no longer sufficient, and that artificial food was resorted to. It is not in the course of nature that menstruation and lactation should proceed together. If menstruation will take place in spite of lactation, and if it be further probable that when menstruation returns conception will follow, what useful end can be answered by persisting in suckling?

I entertain a confident opinion that, as it is proved that a large excess of abortions takes place among women who suckle after menstruation and conception, so a considerable proportion of this excess of abortion may be observed by weaning on the appearance of menstruation, or as soon as the existence of pregnancy is known.

To draw all the observations touched upon in this communication into a few points;

First. Lactation exercises a considerable influence in preventing menstruation and conception.

Secondly. This influence appears to be marked and constant in some women, and to exist but feebly in others.

Thirdly. The influence of lactation in averting menstruation or conception, cannot for the most part be kept up longer than twelve months.

SHOWING THE INFLUENCE OF LACTATION IN CAUSING ABORTION.

Total number of conceptions	619	Number of conceptions during lactation ..	159	Number of conceptions unconnected with lactation	461
Total number of women who aborted	41	Number who aborted having conceived during lactation ..	16	Number who aborted* independently of lactation	28
Total number of abortions	74	Number of abortions following conception during lactation ..	27	Number of abortions unconnected with lactation	47
Proportion of total abortions to total conceptions29	Proportion of abortions following conceptions during lactation17	Proportion of abortions following conceptions unconnected with lactation ..	.10

(London Lancet.)

MATERIA MEDICA.

Veratrum Viride—*American Hellebore*. By W. C. NORWOOD, M. D., Cokesbury, S. C.

GREEN hellebore—that put up by the Shakers—is generally in neat pound packages. They label their *veratrum viride*, white hellebore. In ordering, if not particular, a person is liable to receive the white hellebore proper, for the American or white hellebore of the Shakers, described by the United States Dispensatory. Its remedial powers are 1. acrid; 2. expectorant; 3. diaphoretic; 4. adanagic; 5. nervine; 6. emetic; 7. sedative—arterial sedative. I might add an 8th property or power, viz., it creates and promotes appetite, in small doses, beyond any agent we are acquainted with.

Its acrid powers are slight, and mostly confined to the mouth and fauces, and do not excite that warmth in the stomach, and general glow, peculiar to the more active excitants as acrid substances, such as capsicum, &c.

The expectorant powers are not surpassed by any article for which this property is claimed.

Its diaphoretic powers are manifested with as much certainty and extent as by any belonging to the same class.

Its adanagic, alterative, or deobstruent powers are, we believe, superior to those of calomel or iodide of potassium, and, in connection with other properties, are anticipated great and permanent relief from it, in the treatment of cancer and consumption.

*Three women had abortions, both connected and unconnected with lactation.

We are unable to select any term fully expressive of our meaning, or more capable of conveying a knowledge of the power of the article in this particular, than *nervine*. Its *nervine* powers are great, allaying morbid irritability and irritation, but more especially morbid irritative mobility, and relieving pain in febrile and inflammatory diseases, without stupifying and torpifying the system, as opium and its various preparations are known to do. We might go on to specify many circumstances, where, in a minor and subordinate sense, it relieves, without any of the unpleasant effects peculiar to opium following it, as muttering while dozing, lying with half-closed eyes, frightful dreams, torpor of the bladder and bowels, &c. We preferred to call this property or power *nervine*, from its relieving pain, to as great, and perhaps greater extent, than opium, in many inflammatory diseases, and more especially where there is irritative mobility.

We avoided the term *sedative*, because it is often applied to narcotics, and likewise to articles that reduce *entonic* action ; but more particularly on account of applying it to designate one of the most valuable powers possessed by the *veratrum viride*.

It is one of the most certain and efficient emetics belonging to the *materia medica*, and one on which we, above all others, would prefer to rely, for the purpose of breaking up and arresting disease. Of course, we are speaking in a general sense, as all know there are immediate and certain specific effects, which can be obtained only by the specific effect of a certain agent. In our first use and experience with the article, we came to the conclusion that its effects were mostly confined to the stomach ; but a more extended experience has convinced us of its powerful effects on the liver. It possesses, in an eminent degree, the property of exciting the liver to action. It is not followed by prostration or exhaustion, after the paroxysm or effort of vomiting has ceased. It possesses a superiority over all other, or a large number of, active emetics, in not being cathartic. It is not refrigerant, reducing or antiphlogistic, in the sense that tartar emetic is, but may be given in any stage of pneumonia or typhoid fever. It is rather slow, perhaps, from the manner of administering it, in producing emesis, but the most certain of any article that acts as an emetic.

We now come to notice the seventh, and by far the most important of all its powers. We call it *arterial sedative*, for the very reason that we have at present no other term that so fully expresses the meaning we wish to convey. *Veratrum viride* possesses the power of controlling, we might say at will, the action of the heart and arteries. No man can give it in five successive cases of well marked pneumonia, without being convinced of this remarkable fact. It fails so seldom in producing this

astonishing effect, that we feel constrained to call it universal, on the principle that the exception proves the rule. *Exceptio probat regulum.* The certainty and extent of this power rests on such a "*cloud of witnesses,*" that we shall not waste time in the farther proof of it.

We merely mention the eighth power, and leave the statement to be settled or not, viz., its ability to create and promote appetite.

It often produces severe nausea, frequent vomiting, intense paleness, coolness, and occasionally, coldness of the surface. In some cases, the vomiting is almost continuous. It occasionally excites hiccough. And where the nausea was severe, and vomiting frequent and almost persistent for the time, we have found the pulse small, slow and almost imperceptible at the wrist.

Our formula or recipe for making it is the follows :

℞. Rad. veratrum viride, dried, - 8 oz.

Alcohol of the shops, - - 16 "

Digest at least for two weeks.

Of this preparation we give as follows : To an adult or grown man, eight drops to be given every three hours, increasing the dose one or two drops every portion given, till the pulse is reduced to 65 or 70, or nausea or vomiting ensue. Ladies, and boys or lads, from fourteen to eighteen, begin with six drops, and increase as above. Children, from one to five years old, begin with from one to two drops, and increase one drop only. When the pulse is reduced as low as wished, or nausea or vomiting occurs, reduce the dose one-half, in all cases, and continue the medicine so long as necessary to prevent a return of the symptoms. One or two portions, if necessary, of syrup of morphine and tincture of ginger, or brandy and laudanum, will relieve all the nausea, vomiting, or unpleasant effects that may follow the use of the tincture of veratrum viride, if given according to the above directions.

We mention the reduction of the pulse, or nausea or vomiting, as governing points for reducing the quantity. We have reduced the pulse as low as thirty-five beats per minute, without exciting the least nausea or vomiting. If the remedy had been continued in the same quantity, without any farther increase, we are at a loss to know what the result would have been. Whether or not it would have suspended the action, so as to produce death, we are not able to say. We have frequently succeeded in reducing the pulse, without nausea or vomiting ; so that the reduction of the heart and arteries is not dependant on either of the above mentioned circumstances.

Some have objected to the quantity of root we use, as being extravagant and unnecessary. If any person will take the trouble to refer to the very able article, by Dr. Robert, of Alabama, and published in the

June number of the *Augusta Journal*, for 1852, he will perceive that he added twice the quantity of alcohol that we directed, and it required from twenty to twenty-five drops to obtain its effect, and from ten to fifteen drops were used to continue and keep up the impression, when once excited. We would much prefer the waste of an ounce or two of the root, to being annoyed with a want of uniformity of strength of our tincture. We do not doubt that, if the root was dug at the proper time, and put up with care, that less would do. But, as it comes to us, we feel confident we have regulated the quantities as nearly as can be done under the circumstances.

We are convinced that quinine and brandy, but more especially quinine, are inadmissible in the treatment of typhoid fever, during the use of the *veratrum viride*. We have treated several cases of typhoid fever in council, where all the usual remedies had failed, and where there was an effort making to sustain action, and excite and diffuse heat, by brandy and quinine, and rubbing the surface generally with pepper, and notwithstanding all this effort, the pulse was so feeble, and peculiarly quick in the beat, that we could number it with difficulty, making it from 130 to 135, and the skin continued cool, with an intense burning and heat extending from the stomach to the fauces. Medicine of every kind whatsoever was withdrawn, and she was put on the use of the tincture of *veratrum viride*, commencing with three drops, and increased every three hours. The three drops nauseated and vomited, before the period for repeating the dose, which brought up a quantity of thick mucous and glairy fluid, resembling the white of an egg; after this, a large quantity of thick and dark bile. At the period, nausea and vomiting having ceased, we gave four drops, from which she vomited freely in half an hour, bringing up a large quantity of thick yellow bile, which afforded relief from the internal burning, and excited a general diffusion of heat over the surface, the pulse becoming more full and distinct. And by continuing the *viride* in three drop doses every three hours, and six drops every six hours, in a little cold water, by injection, the pulse, in forty hours, was reduced down to ninety, full and distinct, without the addition of a single portion of brandy or quinine. If this were a single or isolated case, we would not have mentioned it; but we have treated a number of cases with a like effect and success.

We usually administer it in a little sweetened water, and are specially particular not to leave a mixture of it with paregoric or lavender, or anything that will cover the taste and smell, unless there is a label on it, as a mistake might happen, by any person thinking that the paregoric or lavender were pure and unmixed.

We believe that we have given a general statement of its powers and

properties, of the mode of preparing it, method of administering it, and the means of relieving any unpleasant or drastic effects. The temperament, susceptibility, idiosyncrasy and circumstances of the case will modify the above directions, according to their force, number and extent, and can only be regulated by the person in attendance.

In our first published article, we were under the impression that it was narcotic. Having taken it repeatedly ourselves, we are fully persuaded that it is destitute of narcotic powers. We have taken it more than twenty times. A portion, of from five to seven drops, excites an acrid or biting sensation in the fauces, very much like lobelia. There is a gentle sensation or feeling of coolness in the stomach, and a slight feeling of coolness or moisture of the surface generally. Nine drops excites nausea or vomiting—the nausea, in our own case, not continuing more than fifteen minutes before emesis, and not severe. The contractions of the stomach were so rapid as to appear almost continuous. Just previous to, and during, for a short time after, vomiting, there was a slight tingling and sense of numbness felt about the joints generally, which was at its height during the act of vomiting. The feeling or sensation of numbness and tingling resembled that of a limb in the first stage of falling to sleep, and was not unpleasant. Many of its effects, that are called narcotic, are capable of explanation on other than narcotic principles. In venesection, if any person will take pains to notice the effects, he will find dilations and contractions of the pupil of the eye, lightness and giddiness of the head. So will he from opium, and in like manner from veratrum viride. No one pretends to attribute the effects following bleeding to any narcotic powers; but to a change in the quantity of blood sent to the brain, and the shock produced on the nervous system and brain. In the effects following opium, if any difference, there is more blood sent to the brain, or, at all events, there is little or no alteration in the circulation; still, there is nausea, giddiness, and dilation or contraction of the pupil, as in venesection. We now, by way of comparison, notice the effects of veratrum viride. The supply of blood is sent very slowly to the brain, and the shock to the nervous system is considerable; hence the capillaries are emptied, and the face and surface pale, as in venesection, and the giddiness and other effects nearly similar. And a proof of the position we are setting forth is, that this giddiness and paleness, &c., does not take place until its effects on the circulation are manifest.

If any man will study closely the effects of veratrum viride on the system, we are convinced that many of his notions of the pathology of disease, and of the modus operandi of many remedial agents, will be upset. It obviates the necessity of tonics and stimulants, with the few-

est exceptions, and venesection is rarely indicated. In fact, we are persuaded that stimulants rarely do good, where there is much vitiated or morbid action connected with the debility or exhaustion sought to be removed. We are equally satisfied that venesection is rarely indicated or beneficial, except in cases for the removal or subdual of pure asthenic or entonic action, or for equalizing unequal excitement, or rendering the system susceptible to the impression of other agents. In the last two instances, in asthenic diseases, it is not often indicated or admissible, and depends more on the manner of taking it than on the quantity. In the first instance, which is the only one unavoidably indicating it, we rely more on the quantity taken than on the manner of taking it. We could give eleven successive cases of typhoid fever, treated successfully by *veratrum viride*, unaided, from the period we were called to see them, by brandy, quinine or venesection, and the two that had been bled, and were on the use of stimulants and tonics, were in as low and dangerous a condition as any. Eight out of the eleven were consultation cases, and, with the exception of one case, were all seen after the ninth day. One of the three remaining had been seen by another physician, and the other two were seen at the outset, and brought to a crisis. One on the fifth and the other one the seventh day. We state the circumstance of their being counsel cases, and that, in some of the cases, we were the second counselling physician, that the severity of the cases may be judged of to some extent.

There is a variety of typhoid fever, which prevails, in which the patients are what we call severely sick, and there is little or no mortality attending it. A physician we happened to know, had treated this mild kind, as we term it, till he felt convinced he was *master of the disease*, so to speak, and moved into a section of country where it was accompanied with great mortality. To use his own words, he was completely upset, and had no conception of the nature of the disease, or the best manner of treating it.

But to conclude this article, already too extended. We scarcely know of an acute febrile or inflammatory disease, in which *veratrum viride* is not indicated. In fact, wherever there is morbid action and vitiated secretion, in the wide circle or domain of idiopathic or symptomatic diseases, we believe it will be indicated, either internally or externally, and hope some one will turn his attention to its external application.—*Charleston Medical Journal*.

OPHTHALMIC AND AURAL SURGERY.

Fibrous tumour within the orbit protruding the Eye.—Extirpation.—Recovery. Under the care of Mr. CRITCHETT.

JOHN SEARLE, aged 48, dark complexioned and stout, but rather pale, was admitted into the Royal Ophthalmic Hospital, under Mr. Critchett's care, on August 25, 1852. In the lower half of the right orbit was a large solid-feeling but not well-defined swelling, by which the eye was considerably protruded, and forced upwards and outwards. The upper lid was distended and tense, the lower one everted, and its conjunctiva exposed. The eye was so much displaced that he could only look upwards; he had, however, perfect vision in that direction. The gradually progressing extrusion of the eye had first been noticed fifteen months previously, and the growth of the tumour had not been attended with more pain than its pressure on surrounding parts might well account for. He could assign no cause for its appearance, having as far as he knew, never received any injury to the part. His general health had, he thought, not at all deteriorated since it began to grow. When the disease commenced he was resident in the United States, and the surgeons whom he there consulted having declined to interfere, he had returned to England, in the hope that some operations for his relief might be performed. A consultation on his case having been held, it was decided to make an exploratory incision into the tumour, and to attempt its removal or not, as might, after so doing, appear desirable.

As the patient was remarkably courageous, and believed himself quite able to bear the pain attendant on the operation, chloroform was not administered. Mr. Critchett first divided freely the everted conjunctiva of the lower lid, and, having dissected it off, brought into view a firm, whitish-looking growth. When the latter had been, with care, separated from the surrounding parts, and several large portions removed, it was found to extend very deeply into the orbit, being apparently attached to the sheath of the optic nerve. Considerable hæmorrhage took place during the dissection, and the pain occasioned to the patient was so great that he became unmanageable, and appeared quite unable to bear any further protraction of it. It was accordingly deemed best to desist for the present, and, the cavity which had been made having been stuffed with lint, the patient was sent to bed.

The removed portion of the growth was firm, tough, and of a pale grey colour; when torn, it exhibited the appearance of radiating bands of parallel fibres. Under the microscope, it seemed to be made up of white fibrous tissue, with many elongated cells. Scarcely any constitutional

disturbance followed the operation ; the lower lid, and parts in lower half of orbit, however, became very much swollen ; from the latter, a large slough separated. During this time, his pulse was quiet, tongue clean, and appetite good. When the large hollow left by the separation of the slough was nearly filled up, he became an out-patient ; and the tumour having soon afterwards increased to nearly its former size, he was transferred by Mr. Critchett to the London Hospital, with a view to a second operation.

August 26.—The lower lid is everted as before, and exposes a florid and much thickened conjunctiva. The tumour, although it has increased rather rapidly, shows no tendency to ulcerate or bleed. From pressure on the globe, it has latterly produced very much pain, and the man is extremely anxious that something should again be attempted. Mr. Critchett accordingly having apprised him, that, from the deep attachments of the growth, the integrity of the eye would be much jeopardised in the dissection necessary for its removal, consented to make another trial. The patient having been placed under the full influence of chloroform the thickened conjunctiva was dissected from the whole front of the tumour, and the parts were held under by assistants. Mr. Critchett then carefully divided, without injury to the globe, the adhesions between the tumour and the surrounding parts ; having freed it to a considerable extent, he next seized it with a pair of toothed forceps, and made pretty firm traction, endeavouring at the same time, with a pair of blunt-pointed, curved scissors, to separate its posterior attachments. After a little manœuvring, a large mass was removed, which, as it was surrounded in most parts by a distinct fibrous envelope, probably included the whole of the growth. Its size was that of a large walnut, and it presented much the same appearances as before, save that, while not quite so firm in its general texture, it contained scattered in its substance numerous particles of bone ; there were also a few very small, smooth-walled cysts. No spots of ecchymosis existed ; it yielded no juice, and was with difficulty disintegrated by pressure.

There followed after the operation a pretty acute suppuration of the cellular tissue of the orbit, which, during the first fortnight, occasioned considerable swelling ; it was accompanied, however, with very little constitutional disturbance, and no inflammation of the eye itself. At the end of that time, the tumefaction began to subside, and the eye gradually receded. About the end of September, at the time of his discharge, the eye had resumed its natural place, or was, if anything, a little more sunken than the other. Vision was perfect, but owing to the injury which the inferior rectus had sustained, the eye was directed a little upwards. He could roll it with ease in every direction excepting downwards. A second

microscopic inspection of the growth, made after the last operation, coincided in its results with the former one; and there can, consequently, be little hesitation in assigning it to the class of fibrous tumours, of which it was one of the loose-textured, cyst, containing variety which had, as is not unusual, undergone interstitial calcification in many parts. There is, therefore, every reason to hope that the man will now remain free from any reproduction of the disease. No case could better demonstrate the benefit conferred on practical surgery by the introduction of anæsthetic agents into use. Under any circumstances, the accomplishment of a dissection reaching nearly to the apex of the orbit, without inflicting on the eyeball either present or prospective injury, must be a most difficult task, and one which the slightest resistance, on the part of the patient, would render altogether impracticable.—*Medical Times and Gazette.*

MEDICAL JURISPRUDENCE.

Points in the Medical Jurisprudence of Gun-Shot Wounds. By R. A. KINLOCH, M.D., Lecturer on Surgery in the "Charleston Summer Medical Institute."

INTERESTING and important questions in legal medicine often spring up in connection with gun-shot wounds. The life or death of a human being may hang upon our ability to answer the simple inquiry as to the direction from which the projectile entered the body, or to certify, from the appearance of the wound, to the character of the instrument with which it was inflicted.

I do not propose to enter the wide and extended field of investigation into which a full examination of these inviting questions would carry us, as this is neither the time nor the occasion. I but allude to the matter here, as associated with a case which I think illustrative of the difficulty which at times we may encounter in the formation of a positive opinion upon the topics referred to.

Joseph M'Gorty, a lad about thirteen years of age, was, in December last, accidentally shot, as appeared on evidence, by a pistol discharged from the hand of one of several boys, who were engaged in an attack upon a negro, who had struck or otherwise injured them. The ball entered the abdomen about two inches above the left external abdominal ring, and made no exit. The wound was circular in its general appearance, or somewhat irregular or broken, at one or more points of its circumference; the edges were inverted. The patient lingered several days, and died of peritonitis. From an autopsy, I discovered that the small intestine was wounded in two places, and had afforded extensive fœcal effusion. The ball was found loose in the pel-

vis, to the right of the rectum, and was somewhat irregularly flattened.

The case coming up before the legal tribunal, the parties being tried for the murder of the negro, and afterwards for the murder of the boy, my testimony was required in the latter case. The cause of death of course was palpable, and my evidence on that point, strictly speaking, all that was needed. It happened, however, that the examination of a witness, during the trial of the case of the negro, led some to infer that the ball which proved fatal to the boy had glanced from the earth, and thus inflicted the fatal wound. Although the law recognized no difference in the crime, whether the fatal instrument reached the victim in a direct or indirect manner, yet this afforded lawyers, with but little evidence for a defence, sufficient grounds for cross-questioning the medical witness, in order, if possible, to confuse the minds of an ignorant jury. And first, I was asked to state, from the facts obtained at the autopsy, what was the direction in which the shot entered the body. Three circumstances at once suggested themselves, as militating against the formation of a positive opinion upon this point: 1st. The *thinness* of the abdominal walls; 2d. The *movableness of the intestines* within these walls; 3d. The fact of the ball's having *neither made an exit, nor been imbedded in any of the structures*. The difficulty arising from the thinness of the abdominal walls I may illustrate by remarking, that if a sheet of paper be fixed perpendicularly in the air, and then perforated by a ball, it would be exceedingly difficult, from a mere inspection of the aperture in the paper, to say at what angle the ball had struck, or whether it had reached the paper in a horizontal direction, from below, or from above. It is true, the abdominal wall is much thicker than a sheet of paper; yet the elasticity of the tissues composing it prevents an additional barrier to our determining the question, from the mere appearance of the wound: so that the obstacle, in the one case, I conceive to be almost as great as that in the other. I introduce the comparison, however, merely for the purpose of illustrating my meaning.

In the next place, was the position of the intestines fixed and unchangeable, the continuity of the wound in these parts with that in the abdominal wall would, in the case before us, have been preserved, and thus afforded me a clue to the solution of the question. But, as such is not the case, the intestines being allowed a certain degree of motion—and the latitude of this, we can imagine, is not diminished in a patient suffering from peritonitis—no correct line of direction could be drawn.

Again, had the ball made its exit at the posterior part of the body, or had it been imbedded in some of the deep structures, I could, under either of these events, have traced a direct line of direction, and solved

the problem. But, it will be remembered, I found the ball down in the pelvis, where it had arrived by the force of gravity.

The next question was as to the cause of the flattening of the ball. This was certainly owing to its contact with some hard material. To have reached such material within the body, it must have penetrated the posterior wall of the peritoneum, to come in contact with bony tissue. I gained no such information from the examination. Neither was there an observable impression upon any portion of osseous tissue against which it was likely the ball might have impinged, nor any appearance of violence about the soft parts immediately covering this. I would here digress, however, to say that I thought this by no means conclusive, as the fluids of the body, during an examination of this kind, as also the changes which must have progressed since the accident, might have so obscured or modified the appearance of parts, as to have rendered such a discovery very difficult. And further, I conceived it *not impossible* for a ball to have impinged, even with force sufficient to have flattened it, against a bony surface, covered only by strong fascia, or an aponeurotic expansion, and left no impression easy of detection. We are all familiar with the fact, that a ball may be flattened against paper or cloth, if either of these materials be pasted against any solid structure, such as stone or iron, and yet the paper or cloth not be broken. About the sacro-verbral angle, the osseous structure is not covered with muscular substance, which, if present, would have afforded, in the case before us, evidence of the ball's having penetrated to the bone, but simply by ligamentous tissue, and in front of this we find very loose cellular substance filling up the space between the great iliac vessels. So loose is this cellular tissue that a ball might readily pass through it, without leaving distinct traces of its passage. But to return. I conceive the strongest objection to the ball's having struck bone, was the fact of its having been found *within the peritoneum*, a shut sack. For, to have been here, and yet to have impinged against osseous structure, it must have passed out of the sack, and then, by a rebound, have again entered it—a thing exceedingly improbable, even laying aside the fact of my having failed to observe a wound in the posterior wall of the peritoneum.

But it was thought the question could be *positively* determined from the character of the external wound, and I was asked to say whether this was made by a round smooth bullet, or by such a one as I had extracted from the dead body. In giving an opinion here, I could perceive I had to contend with a difficulty which a medical man often meets with in the courts of justice. It seemed to have been expected that the configuration of the wound should assuredly have corresponded, in all respects, to that of the body inflicting it—that the angles and lines of

the one must have mathematically conformed to the angles and lines of the other. Entertaining such views, it is natural for many to wonder at the unwillingness of medical men to give a positive opinion in particular cases. They forget that "there is a doubt that springs from knowledge." In the present instance, I conceived that the wound, which I have described, might have been made by a round smooth bullet, or by a somewhat irregularly shaped one. I did not feel justified in making the hair-breadth distinction which seemed to be expected. The human body is composed of materials of such different density and elasticity, so diversely arranged so variously circumstanced in their several portions, that it is idle and unphilosophical to expect always to realize the same appearance of parts, even though they may have suffered from external violence, apparently or precisely the same. This truth is forcibly exemplified by the discussion which took place in the French Academy, after the revolution of 1848, respecting the size and appearance of the orifice of entrance and exit of gun-shot wounds. It had been considered an established fact, that the orifice of entrance was smaller and more regular than the orifice of exit. In this discussion we find M. Blandin maintaining the contrary opinion, and asserting that he had never met with a single gun-shot wound, during the revolutions of 1830 and 1848, in which the aperture of entrance was not *larger* than that of exit; and the observation of no less a surgeon than M. Malgaigne was confirmatory of this remark. M. Roux thought that there was no absolute rule, much depending upon the force and direction of the impelling power.* If, then, such competent observers as these differ so essentially, upon a point apparently of easy solution, can we be often justified in referring a particular appearance of a gun-shot wound solely to some modification of the body inflicting the injury? I think not, believing as I do, that the force, distance and direction of the impelling power, as remarked by M. Roux, together with many other circumstances, give to these wounds their character. We are told by Hennin, Guthrie, and other military surgeons, that, under peculiar circumstances, a round smooth bullet will inflict an injury closely simulating an incised wound, and that the same agent will also, at times, present us with an irregular, jagged wound. These, it is true, are exceptional cases; yet, when the question of life or death depends upon a word from us, it is well to have them in mind. We are guilty of no assumption when we say that the issue of life or death, in these cases, may depend upon a word from the physician. An individual in Delaware, not many years ago, was killed, by being shot through the body. It was proved that his assailants stood on opposite sides to his person. One of

* Brit. and For. Med. Chir. Rev., Oct. 1848.

them was condemned and executed, because the medical witness testified that the bullet hole next to him was the *largest* and therefore the *orifice of entrance*.*

How essential is it for the medical witness to possess a firm conviction of the truth of his opinion. How natural—how proper—the feeling which prompts us to obey that fundamental rule in legal medicine, to give the accused the benefit of our doubt—to allow the guilty to escape, rather than cause the innocent to suffer.—*Charleston Medical Journal*.

UN MONSTRE.

Nous recevons du Dr Faréou, de Sainte-Marie, l'observation suivante que nous nous empressons de publier. C'est un des cas de diplogénèse les plus curieux dont nous ayons lu l'histoire. Le docteur Faréou a eu l'obligeance de nous adresser un dessin au crayon de cette monstruosité ; mais l'exactitude rigoureuse de son observation rend tout image superflue.

“ Appelé le 11 Février 1850 vers huit heures du soir auprès d'une femme en couche, je trouvai qu'elle venait de mettre au monde un enfant à terme, du sexe masculin. Le cou, le thorax, l'abdomen, les organes génitaux, l'anus, les extrémités extérieures et inférieures, tout y était dans l'ordre naturel, et d'une belle conformation.

“ Mais en passant à l'examen de la tête, on voyait qu'elle était double dans sa partie antérieure, et simple dans sa partie postérieure. L'os frontal et les pariétaux manquaient en totalité, l'occipital n'existait qu'à sa base ; il était recouvert par le derme chevelu, qui présentait des plis transversalement, indiquant une pression de haut en bas et d'avant en arrière. Le cerveau manquait complètement, et l'œil apercevait les saillies osseuses de la base du crâne. La crainte de nuire à l'état de conservation du sujet m'a fait négliger de m'assurer de la présence du cervelet et de la protubérance annulaire.

“ En examinant la partie antérieure de la tête, on trouve, en haut et sur la ligne médiane, un œil du volume d'un œil d'adulte, voilé par une teinte foncée, due à du sang épanché, plus bas une grande surface convexe et ovale dans le sens vertical du corps, ayant une dépression au centre.

“ Si l'on examine le côté, de la tête on trouve à droite et à gauche les mêmes objets c'est-à-dire, un nez, un bec de lièvre, une bouche, un menton, en haut et plus en dehors l'œil, et plus en arrière l'oreille. Si regardant

* McLellan's Surgery.

un des côtés de la tête, on voile le côté opposé en tirant une ligne verticale qui, partant de l'œil moyen, diviserait en deux moitiés la surface convexe pour venir tomber entre les deux mentons, on voit alors se dessiner la joue qui correspond au côté que l'on examine. Le volume de l'œil moyen, ses deux angles qui ont la forme de l'angle interne, ces deux faces accolées par leur côté opposé, tout faisait soupçonner que l'œil moyen n'était que la réunion de deux yeux; ayant mis le sujet dans l'alcool pour en assurer la conservation, l'action stimulante de ce liquide a mis en mouvement le sang épanché qui est venu se fixer sous la forme d'un cercle à la circonférence, laissant le centre de l'œil à découvert: ce qui permet de voir aujourd'hui les deux iris en contact sous la même paupière.

“ Pour me résumer, on trouve :

“ 1o Une seule cavité du crâne ;

“ 2o Absence du frontal, des pariétaux, et des trois quarts supérieurs de l'occipital ;

“ 3o Absence du cerveau ;

“ 4o Quatre yeux dont les deux moyens réunis.

“ 5o Deux nez ;

“ 6o Deux becs de lièvre, simple à droite et double à gauche ;

“ 7o Deux bouches ;

“ 8o Deux mentons ;

“ 9o Quatre joues ; } les deux moyennes réunies, sans sillon longitu-

“ 10 Deux oreilles. } dinal, n'ayant qu'une dépression au centre.

“ La partie postérieure de la tête est simple, et n'offre rien de particulier à considérer.

“ Les cris de cet enfant étaient forts et graves dans le larynx et l'arrière bouche, ils perdaient de leur intensité en arrivant dans la cavité buccale. L'air expiré s'écoulant au dehors avec une grande facilité, mettait à peine en mouvement les mucosités qui se trouvaient sur les deux bouches.

“ Les yeux, à demi ouverts, paraissaient sensibles à la lumière.

“ Ce phénomène a vécu vingt-six heures.”—*L'union Médicale*.

FELT AND CHAMOIS LEATHER PLASTERS.

MESSRS. WRIGHT and EWING have introduced a material which is likely to be valuable to patients requiring plasters for bad sores. It may also be useful for other purposes. It consists of a kind of felt, more soft in its texture than that which is used for hats, and is covered on one or both sides with chamois leather. In either case, it appears to be an application likely to prove serviceable. It may be used for removing pressure from any particular spot, by cutting a hole in the plaster at the part affected.—*London Pharmaceutical Journal*.

Canada Medical Journal.

MONTREAL : JANUARY, 1853.

NOTICE.

If the subscribers to this Journal are desirous that it should be continued—all who have not yet paid their subscriptions for the past year, are particularly requested to do so before the next issue on the 1st February. We would call their attention to the following from the *St. John's News* :

CANADA MEDICAL JOURNAL.—We have to acknowledge the receipt of No. 10, of this ably conducted Journal, and on perusal, find that it contains the usual amount of matter, interesting as well to the general reader, as to the members of the medical profession. One thing, however, we regret to observe, and that is, in a notice to the subscribers to the Journal, the editors find themselves obliged to relinquish the publication of the Journal after the completion of the first volume, should the subscriptions be not all paid up. Every credit is due to the editors for so ably conducting a journal without any remuneration whatever ; and as their time and attention is given to it in this way, surely there are members enough of the profession, and others too, who ought to subscribe and *pay* enough for printing and circulating so interesting a journal. Since the editors commenced the publication of the Medical Journal, they have, without exception, been favourably and most highly spoken of by the whole newspaper press of the Province, and most deservedly so too, and we cannot for a moment suppose, that they will be permitted to terminate their labors for the sole reason that a paltry fifteen shillings per annum is not paid by each subscriber. It is really a disgrace to the Province of Canada to have it said that so valuable a journal should cease to be published for the reason given, and we appeal to the members of the medical profession, and to all others, promoters of science, if they will permit it. No, we are sure they will not ; and we trust they will come forward, and in a *substantial* way, assist in inducing the editors to “go on and prosper” in their most laudable undertaking.

Although we have only had time to glance over the Report of Dr. Wolfred Nelson, on the discipline, management, and expenditure of the several Prisons in the Lower Province, printed by order of the Legislative Assembly, we are satisfied the learned Dr. has entered upon the duties of his responsible office, with every desire to do full justice to the important trust confided to him. For the purpose of eliciting all the information possible, he submitted a series of 62 questions to the Sheriffs, &c., which, together with the replies thereto, are worthy of public and *administrative* notice. The expenditure of some of the jails seems over large and not to have been incurred on any fixed plan or system—hence, articles appear to have been often purchased by dribbles—sometimes in one shop—sometimes in another, and always at *retail* prices. The expenses incurred in the jail, in this (the Montreal) district amounts to a very large sum. The amount for the last year is put down at £3498 17s. 5d., and this for the care of 1612 (answer to question 4) prisoners. While at the Quebec jail, the amount expended for 1300 prisoners, including the 200 sailors mentioned at the foot of the statistical table, is only £1400. Certainly a very great difference in favor of this latter, which would appear to be a well conducted and well managed institution.

The learned Dr. has given his views on prison matters generally—which are not only the result of personal observation, but founded on the principles inculcated by some of the most celebrated writers on Prisons and Penitentiaries. He has also supported his positions by the opinions of some of the most celebrated judicial characters in England, as well as from the reports of several committees of the Houses of Lords and Commons. While strenuously advocating the necessity of punishing offenders against the Laws, he would wish to reform them—to elevate them in their own estimation, and convince them it will be their own fault if they do not ultimately gain a respectable name and standing. In furtherance of these humane sentiments, he suggests that discharged prisoners should not, as hitherto, be scouted and banished from society, but that they should meet with a kind reception, and be given a fair chance to lead a better life. The Dr. is decidedly in favour of the “separate and silent system,” and that all prisoners should be made to work, so that they might acquire industrious habits, as well as contribute towards defraying the expenses of their maintenance in jail.

In a future number we may enter more at length in the consideration of this excellent and important Report, especially in regard to all that relates to hygienic and salutary measures, to which the Dr. has

devoted much attention and upon which he offers many remarks worthy of especial notice.

Dr. Marsden, of Quebec, has been at much trouble to enquire into the statistics of the visitations of Cholera to that city, and has lately published the result of his labors, part of which we copy. It is extremely gratifying to find, that in each year (five in number) of its re-appearance, the number of cases have considerably diminished, and although we agree with Doctor Marsden, that “the *exciting, propagating* and *maturing* causes” of the disease, do still exist in our sister city, as in most of our other cities, still from the annual diminution in the number of deaths from this disease, as shown in the annexed tables, we are inclined to believe, Quebec is fast progressing in the remedying of these serious evils.

“At the time cholera broke out among us, nearly 150 vessels had arrived from sea, within the short space of 48 hours; and a migratory population of at least 5,000 souls was thrown among the inhabitants, which would swell the population of the city to nearly 50,000, including its ordinary residents, seamen, &c. When this is taken into consideration, as well as the season of the year, (autumnal,) we have reason to be thankful to the Giver of all Good, that the visitation was comparatively speaking so light. A tolerable idea of the accuracy of this fact may be found, if we compare the number of deaths from cholera, in 1852, with the number during the first six weeks of the appearance of the disease in 1832 and 1834, respectively.

From the first report of cholera in

1832,	from the 9th June to 20th July,	42 days,...	1641.
1834,	“ 7th July to 17th Aug.,	“	1230.
1852,	“ 28th Sept. to 9th Nov.	“	145.

On one day in 1832, June 15th, the number of deaths was 143, which is only two less than during the whole of the past season. The same year the greatest number of deaths in any one week was from the 14th to the 20th June, being 803! In 1834 the greatest number of deaths in one day was 57 which happened on the 21st of July, and the greatest number in any one week in the same year was 287, being from the 20th to the 26th July. The greatest number of deaths in any one day in 1852 was 9, and this was on the 18th as also on the 25th of October, and during one week from the 16th to the 22nd of the same month the greatest number of deaths was 48.

This city has now been visited by Asiatic Cholera on five different occasions ; and the following table will show that each successive visitation has been much less malignant and fatal than the previous one. In round numbers the following is as correct a statement as it is possible to obtain, and the figures are rather below than above the mark :

Deaths from cholera in 1832.....	3,000
“ “ “ 1834.....	2,500
“ “ “ 1849.....	1,180
“ “ “ 1851.....	280
“ “ “ 1852.....	145

* * * * *

The first case of Cholera this year, was a man named McKnight who had been working on board the ship *Advance*, from New York. It communicated to six other persons, in rapid succession, living in the same lodging house in Champlain Street, and among them were two sailors from the said vessel. Of these seven cases *five died*. It then continued to spread to different parts of the city.

The disease seems now to be fairly located on this continent ; and the probability is, that it will not totally disappear for several years. With our present facilities of rapid transit, it is probable that it will be found, at one season of the year in the South, or West, and at another, in the North or East, usually following the most frequented lines of travel ; although it may occasionally diverge to the right or to the left by way of observing its independantly erratic character.

That this part of British America will ever be visited by Asiatic Cholera in winter, is most improbable ; excepting in isolated cases, from infection ; but even in summer, I am of opinion that its progress may be still further stayed, if not totally arrested by the adoption of judicious and effiecient sanatory precautions ; and, at a comparatively trifling cost. It is not my present intention to enter into details, but I will briefly refer to broad principles. Although the *originating* causes of cholera, do not exist here, any more than those of other pestilential disorders, that have sprung and spread from the East ; yet the *exciting* and *propogating* and *maturing* causes are present ; as, defective sewerage, drainage, water and ventillation. All these however are in course of improvement.

Among the most efficient preventive means, *prompt attention to the premonitory symptoms of cholera*, and foremost amongst these are diarrhoea.

From my own experience, in this city, during five distinct epochs diarrhoea has been an invariably premonitory symptom ; and all writers on the subject admit, that it always precedes cholera, for a longer

or shorter period. Dr. Kirk, of Greenock, who has perhaps devoted as much time to the investigation of facts connected with this disease as any other medical writer, gives the result of 3,000 consecutive cases every one of which he states, was preceded by diarrhœa of greater or less duration, extending over a period of from five or six hours to twenty-one days!—and this opinion and statement are participated in and confirmed by the first physicians of the metropolitan cities of Europe and America,—*when if* diarrhœa does not precede cholera, it is an exceptional case to a very broad general rule.

Such being the case, I will make a brief but apposite extract from a letter of Dr. Kirk's to the Right Honorable the Lords of the Privy Council. "I obtained," he says, "at Tranent, near Edinburgh, obscure glimpses of a truth, which I have subsequently been able to confirm here, to the satisfaction of the most sceptical,—that cholera *uniformly* commences in common Diarrhœa; and I reasoned that, if we could fall upon a plan of tracing *nationally, and with absolute accuracy*, all cases of this Diarrhœa, we would put a stop to the disease; as this Diarrhœa is extremely manageable and curable. *In this way, by crushing the cryalis, we would put a stop to the destruction of the devouring fly,—to its growth and existence.*"

I will conclude this notice by remarking, that some persons have blamed us, and questioned the propriety of our not publishing daily reports of Cholera during its existence. Knowing from sad experience that one of the most powerful and fatal predisposing causes of Cholera, is fear. I have used all the influence I possess, in preventing any such publication; and the results of the last two visitations have amply rewarded my exertions on that account. In some quarters however, we have not only been blamed for our silence, but have been charged with withholding or suppressing the truth. Such nevertheless has not been the case in any solitary instance. Not one single false return has been made to persons applying for information to the proper quarter, and the efficient health officer has not only faithfully and zealously discharged a most disagreeable and sometimes dangerous duty, (besides giving the fullest access to his notes, registers, &c., to persons like myself applying for information,) but he has done it all *gratuitously*. This ought to be borne in mind by our citizens.

FRENCH MEASURES AND WEIGHTS.

As it is our intention to publish, from time to time, interesting articles selected from the French Medical Journals, we have great pleasure in acceding to the request of one of our esteemed confrères, in inserting the following Tables, extracted from the last edition of *Malgaigne's Surgery*. From it, the Practitioner in this Country will be enabled to appreciate the quantities of the different remedies mentioned in the French Prescriptions.

MEASURES OF LENGTH.*

New Measures.	Approximate Value.	Exact Value.		
		Feet.	Inches.	Lines.
1 Millimètre.	1 Half-Line.	0	0	0.443
1 Centimètre.	4½ Lines.	0	0	4.433
1 Décimètre.	3 Inches 8 Lines.	0	3	8.330
1 Mètre.	3 Feet 1 Inch.	3	0	11.296
Id Measures.		Exact value.		
	Approximate Value.			
1 Line.	2 Millimètres.	2 Millim.		256
1 Inch.	3 Centimètres.	27		072
1 Foot.	32 Centimètres.	324		864
1 Ell (<i>aune</i>).	1 Mètre 18 Centimètres.	1188		
The English Inch.	2½ Centimètres.	25 Millim.		399
The English Foot.	30 Centimètres.	804		794
The Yard. (3 Feet.)	91 Centimètres.	914		383

MEASURES OF WEIGHT.

New Measures.	Approximate Value.	Exact Value.			
		lbs.	oz.	gros.	grs.
1 Centigramme.	½ Grain.	0	0	0	0.19
1 Décigramme.	2 Grains.	0	0	0	1.88
1 Gramme.	20 Grains.	0	0	0	18.82
10 Grammes.	2½ Gros.	0	0	2	44.28
100 Grammes.	3 Ounces 2 Gros.	0	3	2	10.80
1 Kilogramme.	2 Pounds.	2	0	5	35.15
Id Measures.		Exact Value.			
	Approximate Value.				
1 Grain.	5 entigrammes	0	Grammes		033
1 Gros.	6 Grammes	3			82
1 Ounce.	30 Grammes.	30			59
1 Pound.	500 Grammes.	489			50

* The following table shows the exact relation between the new French and the English Measures of Length and Weight.

Measures of Length.

Mètre, the 1-10,000,000th part of the arc of the Meridian from the pole to the equator.	}	39.370788 inches.
		3 280899 feet.
Décimètre, 1-10th of a mètre	}	1.093633 yard.
Centimètre, 1-100th of a mètre		3.937079 inches.
Millimètre, of a 1000th mètre.	}	0.393708 inch.
		0.03937 inch.

Measures of Weight.

Kilogramme, weight of one cubic decimètre of water of the temperature of 39° 12' Fahr.	}	2.6803 lb. troy.
		2.2055 lb. avoirdupois
Gramme, 1-1000th part of a kilogramme.	}	1.5438 grains troy.
		0.9719 scruples.
Décigramme, 1-10,000th of a kilogramme	}	0.032 ounce troy.
Centigramme, 1-100,000th		1.5438 grain troy.
		0.1543 grain troy.

SUBSCRIPTIONS HAVE BEEN RECEIVED FROM

Dr. E. L. Sewell, Sorel.
 Dr. Gernon, Beauharnois.
 Dr. Glines, Compton.
 Dr. Stewart, Kingston.
 Dr. Anderson, Georgetown.

Dr. Crew, Cooksville.
 Dr. Peltier, Montreal.
 Dr. Bibaud, Montreal.
 J. H. Joseph, Esq., Montreal.
 T. S. Hunt, Esq., Montreal.

A CARD.

THE Subscriber, thankful for past favors, begs to call the attention of his numerous friends, and of the public generally to his **NEW ESTABLISHMENT KING STREET, WEST.** Where he keeps constantly on hand a good supply of School Books and Stationery. As usual, the **RULING** and **BINDING** department of his business receives his special supervision. He has now added a **NEWSPAPER AGENCY** department, and will be happy to order periodicals from any part of the United States, or Canada, on reasonable terms and with the utmost despatch.

Hamilton, 4th October, 1852.

S. HEWSON.

COLLEGE OF PHYSICIANS AND SURGEONS OF THE UNIVERSITY OF THE STATE OF NEW YORK.

The Forty-Sixth Session of the College will be commenced on Monday, 11th of October, 1852, and continued until March 10, 1853, (commencement day.)

ALEXANDER H. STEVENS, M.D., L.L.D., President of the College and Emeritus Professor of Clinical Surgery.

JOSEPH M. SMITH, M.D., Professor of the Theory and Practice of Medicine and Clinical Medicine.

JOHN TORREY, M.D., L.L.D., Professor of Botany and Chemistry.

ROBERT WATTS, M.D., Professor of Anatomy.

WILLARD PARKER, M.D., Professor of the Principles and Practice of Surgery.

CHANDLER R. GILMAN, M.D., Professor of Obstetrics and the Diseases of Women and Children.

ALONZO CLARK, M.D., Professor of Physiology and Pathology (including Microscopy.)

ELISHA BARTLET, M.D., Professor of Materia Medica and Medical Jurisprudence.

CHARLES E. ISAACS, M.D., Demonstrator of Anatomy.

FEES.—Matriculation Fee, \$5; Fees for the full Course of Lectures, \$105; Demonstrator's Ticket, \$5; Graduation Fee, \$25; Board, average \$3 per week.

Clinical Instruction is given at the New York Hospital daily, by the Medical Officers, (Professor Smith being one of them,) fee \$8 per annum; at the Bellevue Hospital twice a week, without fee, (Professor Parker and Clark belonging to the Medical Staff;) at the Eye Infirmary, without fee; and upwards of 1000 patients are annually exhibited to the class in the College Clinique. Obstetrical cases and subjects for dissection are abundantly furnished through the respective department.

The Annual Commencement is held at the close of the Session; there is also a Semi-annual Examination on the second Tuesday of September. The pre-requisites for Graduation are—21 years of age, three years of Study, including two full Courses of Lectures, the last of which must have been attended in this College, and the presentation of a Thesis on some subject connected with Medical Science.

In addition to the regular Course, and not interfering with it, a Course of Lectures will be commenced on Monday, 27th September, and continued until the 10th October.

This Course will be free.

R. WATTS, M.D., Secretary to the Faculty.

College of Physicians and Surgeons, }
 67 Crosby street, New York. }

ST. PATRICK'S HOSPITAL, MONTREAL.

THE Clinical Courses of Lectures at this Hospital will commence on **WEDNESDAY**, the 3rd of November next.

Clinical Surgery,.....**DR. MACDONNELL.**

Clinical Medicine,.....**DR. DAVID.**

Clinical Ophthalmic and Aural Surgery....**DR. H. HOWARD.**

Students requiring six months of either Clinical Surgery or Clinical Medicine to complete their Curriculum, can obtain them by attending these courses, as they are of six months duration.

A. H. DAVID, M. D.
Secretary

ST. PATRICK'S HOSPITAL.

Clinical Lectures.

IN addition to the subjects usually taught during the Winter Session, the Medical Officers of the above Institution, will deliver a **COURSE OF LECTURES**, upon Special Subjects as follows:—

DR. MACDONNELL	} Diseases of the Chest. Female diseases, and diseases of the Urinary Organs.
DR. DAVID ,.....	
DR. HY. HOWARD ,.....	} On diseases of the Eye and Ear, with practical remarks upon all the operations on the Eye performed during the Session.

The Course will continue six months, commencing on Monday, 8th November. Each Lecturer delivering three lectures a week, for two months.

These Lectures are supplementary, to the ordinary Course of Clinical Instruction in Medicine and Surgery.

Fee for the Course,..... £5 5s.

Hospital Ticket, (six months)..... 1 10s.

A. H. DAVID, M. D.
Secretary.

ST. LAWRENCE SCHOOL OF MEDICINE OF MONTREAL.

INCORPORATED BY ACT OF THE PROVINCIAL PARLIAMENT.

THE ensuing Winter Course of Lectures at this School will commence on **TUESDAY**, the 2nd of **NOVEMBER** next, and will be continued uninterruptedly (with the exception of the Christmas Vacation,) till the last week in April, forming a Session of six months.

Midwifery and the Diseases of Women and Children.....**F. C. T. ARNOLDI**, M. D., 9 o'clock A. M.

Institutes of Medicine (Physiology, Pathology and Therapeutics).....**G. D. GIBB**, M. D. 10 A. M.

Materia Medica and Pharmacy.....**G. E. FENWICK**, M. D., 11 o'clock A. M.

Anatomy (Descriptive and Surgical).....**T. W. JONES**, M. D. 2 " P. M.

Theory and Practice of Medicine.....**A. H. DAVID**, M. D., 3 " P. M.

Theory and Practice of Surgery.....**R. L. MACDONNELL** M. D. 4 " P. M.

Ophthalmic and Aural Surgery.....**H. HOWARD**, M. R. C. S. L. 5 " P. M.

Chemistry.....**R. P. HOWARD**, M. D., 7 " P. M.

Clinical Surgery.... } At the Montreal General Hospital by Dr. Arnoldi.
} At St. Patrick's Hospital by Dr. MacDonnell.

Clinical Medicine.. } At the Montreal General Hospital by Dr. R. P. Howard.
} At St. Patrick's Hospital by Dr. David.

Clinical Ophthalmic and Aural Surgery.. } At St. Patrick's Hospital by Dr. H. Howard.

The certificates of this School being recognised by all the principal Universities and Colleges in Great Britain and the United States, it will be to the advantage of students intending to complete their Professional Education in either of those countries, to attend this School.

A. H. DAVID, M. D.,
Secretary.

Montreal, September, 1852.