

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for scanning. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of scanning are checked below.

L'Institut a numérisé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de numérisation sont indiqués ci-dessous.

- Coloured covers /
Couverture de couleur
- Covers damaged /
Couverture endommagée
- Covers restored and/or laminated /
Couverture restaurée et/ou pelliculée
- Cover title missing /
Le titre de couverture manque
- Coloured maps /
Cartes géographiques en couleur
- Coloured ink (i.e. other than blue or black) /
Encre de couleur (i.e. autre que bleue ou noire)
- Coloured plates and/or illustrations /
Planches et/ou illustrations en couleur
- Bound with other material /
Relié avec d'autres documents
- Only edition available /
Seule édition disponible
- Tight binding may cause shadows or distortion
along interior margin / La reliure serrée peut
causer de l'ombre ou de la distorsion le long de la
marge intérieure.
- Additional comments /
Commentaires supplémentaires:

Continuous pagination.

- Coloured pages / Pages de couleur
- Pages damaged / Pages endommagées
- Pages restored and/or laminated /
Pages restaurées et/ou pelliculées
- Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées
- Pages detached / Pages détachées
- Showthrough / Transparence
- Quality of print varies /
Qualité inégale de l'impression
- Includes supplementary materials /
Comprend du matériel supplémentaire
- Blank leaves added during restorations may
appear within the text. Whenever possible, these
have been omitted from scanning / Il se peut que
certaines pages blanches ajoutées lors d'une
restauration apparaissent dans le texte, mais,
lorsque cela était possible, ces pages n'ont pas
été numérisées.

THE
BRITISH AMERICAN JOURNAL.

ORIGINAL COMMUNICATIONS.

MEDICAL DEPARTMENT.

ART. XXVI.—*On Fungi, their relation to Disease.* By JOHN LOWE, M.D.,
M.R.C.S. Eng., &c. &c., Fel. Bot. Soc., Edin., Cor. Mem. Bot. Soc. Can.
Surgeon to the West Norfolk and Lynn Hospital..

Read to the Botanical Society of Canada, by Prof. Lawson, Kingston, 12th April, 1861.

It is now more than twenty years since it was first discovered that vegetable growths could exist upon the human body. From the earliest age diseases of the skin were known and described: the symptoms and appearances they presented were matters of ordinary observation, and rules of an empirical character were laid down for their treatment.

During all this time, it is probable, nay almost certain, that in some forms of the disease fungi were constantly present, but it was not until the year 1839 that this fact was demonstrated. To M. Schönlein of Berlin we are indebted for this most important discovery, which, but for the rapid advance which has been made in scientific knowledge during the present century, and above all in the proper use of the microscope, would, like many other wondrous things, be still one of nature's own secrets. Even now, strange to say, there are those, who regard the growth described by Schönlein as an abnormal production of the body, and deny its vegetable origin; but a vast amount of accumulated evidence leaves no room for doubt upon this point, to any one who is at all conversant with the character, structure and behaviour of the humblest individuals of the plant world, the Fungi.

Regarding it, then, as an established fact, with botanists and the medical profession generally, that a fungous growth is really present in the majority of skin diseases, I shall abstain from entering on the discussion of the reasons for up-

holding this opinion and leave the facts, to be presently mentioned, to speak for themselves,—suffice it to say here, that men of the greatest eminence as botanists and physiologists entertain no doubt on the subject.

We have, however, another and a larger class of observers, who, while they admit the presence of the fungus, disclaim for it any title to be considered as an originator of disease, but regard it rather, as a foreign and accidental visitor, engendered and fostered by the products of a pre-existing malady. Upon this more important dogma, which has, in this country, been the subject of much argument, I propose to speak at greater length, inasmuch as it is a question of considerable interest, in a medical and hygienic point of view.

Before doing so, however, let me point out some of the various forms of fungi which have been noted, as occurring upon animal organisms, in order that I may put before you the salient points which are worthy of interest and attention. The whole of these lower fungi are ascribed by botanists to a subdivision of the family, which has received the name of *Hypomycelous*. They are minute microscopic plants, consisting in their perfect state of a mycelium, that is, a network of fine capillary tubes or filaments, from which springs an upright, hair-like stalk bearing at its extremity a collection of spores or sporules—the seeds of the plant. These have a diameter of about the $\frac{1}{30000}$ of an inch and from their extreme lightness are capable of floating about in the atmosphere and are wafted by the air to every quarter in incalculable myriads.

Whenever they alight upon objects favourable to their growth, as upon decomposing organic matter of every description, they readily germinate, provided there be sufficiency of warmth and moisture, both of which are essential to their well-doing.

Let us follow one of these spores, thus located and watch its development; we shall then have the key to the behaviour of the rest. When first given off from the fruitstalk it is a spherical cell, consisting of a cell-wall filled with a homogeneous molecular plasma, but without a nucleus; on the application of warmth and moisture the cell assumes, in the first instance, an oval form; the cell-contents become granular, the granules ultimately coalescing to form one or more nuclei. In its next stage, it becomes elongated, until its length exceeds its breadth by two or three times; and now we observe small eminences arise from its extremities; these are buds, which in their turn, become elongated cells and then give off other buds or shoots, each in succession acquiring additional length, until finally, we find them as filaments or thread-like cells, crossing each other in all directions and forming a network which is termed the mycelium.

At a more advanced stage, these filaments are seen to contain numerous nuclei and granules, and now, several slender threads are pushed perpendicularly upwards; these are the fruit-stalks, the terminal cell of which undergoes budding or segmentation, until a large number of spores is formed into a capitulum or head. These like the original cells we started with are spherical, and their arrangement varies in different genera, for example being collected into a round head or glomerulus as in *mucor*; or into a brush-like one as in *aspergillus*, so named from a fancied resemblance to the brush used for sprinkling holy-water in Roman Catholic Churches.

Such is, briefly, the mode of development of these minute plants under favourable conditions. But there are occasional deviations to be met with, which are deserving of attention as throwing a clearer light upon certain forms which are to be mentioned presently. This will be manifest when I state that from the results of numerous experiments I have made, the plant may be caused to remain in any one of its different stages of growth by supplying it with food suitable for that purpose. The bearing of this statement will be seen in the subsequent remarks upon the identity of the parasitic fungi. A familiar illustration of the power above mentioned is to be observed in common yeast, which presents itself as a collection of spherical cells containing nuclei and capable of endless multiplication in two ways, viz. by the formation of buds or by the bursting of the cells and the liberation of nuclei which become cells. Yeast is derived from the aerial spores of one or more common species of mould. This I have proved by experiment; and I have recently obtained additional proof of the correctness of this view from the examination of spontaneous yeast of the tan-pits kindly forwarded to me from Kingston, Canada, by Professor Lawson. This in no way differs from brewers' yeast which has been long kept. The favourite food of the yeast-cell is sugar upon which it acts in such a manner as to disturb the feeble combination of its chemical elements. This process which is termed *catalysis* by chemists causes decomposition of the sugar and a new arrangement of its particles, giving rise to carbonic acid and alcohol. Sugar is essential to the maintenance of yeast in its integrity. As soon as its requirements in this respect fail to be supplied, the plant turns for its prey upon the new element it has evoked, the alcohol; which is at once converted by a similar process into vinegar. Here the cell becomes changed in form. It is now oval and this condition, which has received the name of *torula*, it may be made to retain indefinitely; but under ordinary circumstances, it proceeds to convert the acid into other compounds and its development goes on rapidly until it has assumed the form of a filamentous mycelium: In this stage, again, it can be retained at will, as the vinegar plant or as it is popularly termed the "mother" of vinegar which possesses the power of at once converting saccharine matter into acid apparently without the intermediate alcoholic fermentation. If now exposed to the air it completes its growth by producing spores which in their turn go through the same cycle.

With this slight sketch of the natural history of one of these minute beings, we will now notice some of the more important effects which they are reputed to produce. And, first, let us glance at their influence on the higher forms of vegetable.

It appears certain that, before any great damage can be done by these parasites, there must pre-exist in the objects of their attack an unhealthy condition of structure, resulting partly from being deprived of some chemical element essential to healthy growth, and partly to atmospheric changes which tend to foster a too rapid formation of cellular tissue, at the same time that they favour the rapid development of the parasite. The result of these changes in the plant is a lowered vitality rendering it prone to the attacks of the fungus, which, once having found a habitat, spreads with prodigious rapidity, and by setting in motion chemical changes similar to those already spoken of, soon involves the

whole plant in decay. Examples of this will be familiar to you, as in the case of the potato disease, which not many years ago brought England to the verge of famine, and in Ireland, which depends almost solely on this crop, was the cause of untold misery and destitution.

The failure of the vine crops in Spain and Portugal was owing to the ravages of another species, the *Oidium Tuckeri*; and in some seasons the wheat crops in this country are to a great extent damaged or destroyed by another of these minute pests, which, under the name of mildew, often in the course of a single night, converts whole fields of waving corn into black useless rubbish. Dry-rot in timber is another example of the destructive power of this group. Nor are these the only commercial interests which thus suffer. The production of silk is often a complete failure, owing to the silkworm being infested by a minute fungus, the *Botrytes Bassiana*, which entering, probably by the spiracles or breathing apertures, insinuates itself into the blood-vessels and destroys the insect. Damp and want of cleanliness are found to be the causes of the attack. Other species again have been found in flies, beetles, eggs, in the air sacks of birds, on fishes, reptiles, and animals, the mention of which would encroach too much upon your time. A great part of these which have received distinct names, as well as nearly the whole of those from the human subject, I have proved to be mere initial or imperfect forms of one or two common species of mould which occur everywhere upon decaying organic matter, as cheese, apples, oranges, &c. The number of plants thus degraded from the rank of species is about thirty-four, and I doubt not that many others might be placed in the same category.

The first discovery of a vegetable parasite on man was, as I have said, made by M. Schönlein, of Berlin, while examining the crusts from the head of a person affected with favus (*Porrigo lupinosa* or scald head). The plant has been since known under the name of *Oidium Schönleinii*. Another parasite was subsequently discovered in the hairs of persons affected with the disease termed *plica polonica*—also a similar one in ulcer was found by Mr. Robin.

Others have been found in Tinea, Porrigo, Pityriasis, Lichen and Sycosis, &c., &c. Others again in the lungs and on the mucous surfaces of the body. Now the whole of these are referable to a common origin; the characters which have caused them to be raised to the rank of species being due to the plant having been retained in a state of immaturity. So singular is this power of being so retained that we might almost reduce it to a formula. Given a certain quantity of sustenance we might predicate the form which the parasite would exhibit, and thus we find no difficulty in accounting for the great variety which is met with on the human subject alone; difference in density and chemical constitution of textures, in degrees of warmth and moisture, in greater or less facility of access to external air, will readily account for these differences in form, and will render it no matter for surprise that microscopists should have given distinct specific names to upwards of thirty plants which are in truth referable to one or two.

There remains one very peculiar variety to be mentioned. This consists of minute square shaped cells arranged in fours. It was discovered by Professor Goodsir, in a disease of the stomach, and was named by him *sarcina ventriculi*. A similar one has been observed by Dr. Gardner and others, from the kidney. There

is now good reason to believe that both these are merely varieties of the common fungi of which we have been speaking, *Penicellium* and *Aspergillus*. For identical growths have been found by Mr. Stephens, on bones from South America; By Dr. Fox on the human subject, in a case of skin disease; and by myself in a phial containing crystals of cholesterine.

Let us now enquire into the power which fungi have of generating disease. Their influence upon plants has never been doubted—Firstly, because their ravages are too well known, and too serious, to admit of dispute; and secondly, because their malific agency upon structures of a low organization, allows of more easy demonstration, than when highly organized and sensitive tissues are the seat of their operation, and when more various forces and conditions are to be considered.

It is no difficult matter to show that dry-rot as it is termed, would be a comparatively slow process, were it not that the fungus is present, to insinuate itself amongst the fibres of the wood, to give admission to air, and to yield oxygen, which hastens the already commenced decomposition; while at the same time the living cells abstract chemical elements from the woody fibre, and fan into activity the eremacausis or slow combustion of the decaying tissue. Equally obvious is the fact that without yeast, wort would undergo but little fermentation, and that if all vegetable organisms were excluded, no proper fermentation would result; for even in the case of wine which is conducted without the artificial aid of yeast, I have found that this is really the source of the fermentation.

We may assume then, as a fact, which few will deny, that a living vegetable parasite upon other vegetable cells, must excite in them a chemical action, equivalent to fermentation, for it cannot grow without so doing; and that even supposing the cells themselves were able to resist this action, the juices of the plant not possessed of the same vital resistance, must succumb to its influence. Whether this alone be the real secret of its power, affects not the question. If the juices are decomposed the cells must suffer, and the morbid agency is at once apparent. But there is another point in which their action is not unimportant, viz., the power which fungi have of inserting themselves amongst the cells and tissues. Physiologists, and especially medical writers, overlook this fact, that a cell confined in a limited space, and at the same time undergoing development, must expand in some direction, and the force thus generated is almost incredible. Many of you have no doubt seen a strong wall pushed down by the growth of a tree; that is, by the expansion of soft and otherwise yielding cells. But perhaps a more impressive fact is, that simple cellular fungi, growing under large stones, have raised them from their beds to the height of some inches, even when the stones were several hundred pounds in weight; and yet so soft is the structure of the plant that it might be crushed between the finger and thumb. Here is a power not to be ignored when discussing the influence of parasites. Let us see how it applies to the production of disease in animal tissues. Each individual cell, it must be borne in mind, possesses the same motor power, it is only their combined action which yields great results such as the above. Suppose then a single tube inserted into the skin and infringing upon a nerve fila-

ment, would you not expect that nerve to resent the intrusion? Would it not do so if any other foreign body of the same size were introduced? How much more then, if in addition to mere mechanical irritation, the cell proceeds to abstract or decompose the fluids. That it does this, which is indeed the essential function as a scavenger, we see in favus and ringworm, where especially in the former, the odour produced by it is intolerably fetid and irritating. It is clear that what with the actual pressure of the outspreading fungus, and the irritating products which it engenders, there are strong *prima facie* grounds for believing that the fungus does actually produce disease.

Then again if proof were wanting, observe the peculiar character of *lichen annulatus*, fairy-rings in miniature, presenting all the characters that fairy-rings do, and showing clearly enough that the fungus and rings of inflammation proceed *pari passu*.

The form of the disease will be determined by several minor conditions affecting the growth of the parasite; these we have before mentioned as warmth and moisture, suitability of food and density of tissue, all of which influence the development of the plant; thus we find in *Lichen*, one form; in *Pityriasis*, another; in *Favus*, a third, and so on; the spread of the disease being coequal with that of the plant, and the degree of passive resistance which the tissues offer to its inroads.

It must be admitted here, as in the case of plants, that an unhealthy condition of the structures and fluids is necessary to the development of a parasite, for without these it would be incapable of establishing itself. The first attack would in a healthy body be at once resented, and the intruder repelled.

I would remark before concluding, that those diseases which are probably considered as of parasitic origin, have recently been shown by clinical observation to be identical, and capable of merging one into another by imperceptible gradations; thus establishing the fact which I had asserted from experimental enquiry and the development of the parasites.

In conclusion, a word or two as to the treatment of this class of diseases may not be out of place.

The primary consideration will at once suggest itself, that since the fungi can only attack an enfeebled system, it is essential for the cure of the disease that the general health be restored by treatment appropriate for that purpose; for we cannot expect a successful result while this important cause is still in operation.

The remedies which have attained celebrity as specifics, have little claim to be so considered, since if we except arsenic, which by the way is only useful when it is pushed to a dangerous extreme, they are all of but little value.

Of the topical applications I may observe, that my own experience of them is, that they are either inefficient or dirty, or both. The one to which I trust almost solely, has this to recommend it, that it is neither.

Its action is founded on what ought to be our guiding principle in the treatment of these cases, viz., the destruction of the parasite; and this from extended observation I believe to be effected by the Tincture of Iodine, far

better than by any mineral or other agent we can employ, at the same time its application is unattended by any inconvenience.

It is simply an alcoholic solution of Iodine, thus, take of Iodine, ʒj; Iodide of Potassium, ʒss; Alcohol, ʒj; solve. Paint the diseased parts every day or on alternate days; omitting it for a day or two if the skin becomes sore, then resume it and continue the application until the disease has disappeared.

As yet I have met with no case which has resisted steady treatment of this kind, neither do I believe that I am likely to do so.

King's Lynn, Norfolk, England, Feb. 1861.

ART. XXVII.—*Resection of the Elbow Joint.* By JOHN R. DICKSON, M.D.,
Professor of Surgery, University of Queen's College, Kingston, C. W.

Cornelius O'Brien, twenty years of age, of rather a flaccid temperament, was admitted into the Kingston General Hospital on the 12th of May, 1856.

He was labouring under chronic inflammation of the left elbow joint, occasioned by falling on the ice, on the 8th of April preceding. He had been under treatment elsewhere, previous to his admission to the hospital.

The joint itself was very much swollen. The pain of which he complained, was deep seated, and very much aggravated by the slightest motion. His general health was impaired, and he was just recovering from the effects of a drunken frolic, to which, he attributed the present condition of his elbow, as though it was swollen and painful previously, yet, not nearly to the same extent as on admission. A dose of calomel and rhubarb was given him, and hot fomentations and poultices applied to the elbow. A generous diet was also ordered.

During the month of June and early part of July his health improved, and the pain and swelling of the joint was so much mitigated, that he left the hospital on the 14th of the latter month.

He resumed his former habits of dissipation, which soon told injuriously on his local malady. He then placed himself under the charge of a quack, who, he said, rubbed his arm very assiduously with British oil, and afterwards applied a blister.

He presented himself again at the hospital, and was re-admitted on the 24th of July.

The arm was then very much swollen, the skin tense and shining, he complained of extreme pain in the joint, where fluctuation was quite evident. An incision was made which gave vent to a large quantity of pus, the arm was then enveloped in a warm linseed meal poultice; this afforded great relief, but several openings had to be made, as pus was diffused in the areolar tissue about the joint.

An examination confirmed the suspicion that the condyles of the humerus were in a condition of caries; although local relief was afforded, his health was not improved. Hectic symptoms soon appeared and emaciation was very great.

Quinine, iron, and a nutritious diet were prescribed; he was also allowed 6 oz. daily of (his accustomed stimulus) brandy. A marked improvement in his

general health was soon manifest. The arm was placed in an angular splint, in hope that ankylosis might take place. The amendment continued about a month when hectic again became developed.

The only alternative then was, either amputation of the arm, or resection of the joint. At a consultation of the Medical Officers of the Hospital, it was decided to perform the latter. Consequently on the 27th of November, 1856, in the presence of Dr. Mair, Staff Surgeon, Dr. Thornton, Surgeon 9th Regt., Dr. Yates, and about 50 medical students, I proceeded to the operation.

Having placed the patient under the influence of chloroform, the arm being extended, a single oblong flap of about 4 inches in length was formed, the articulation was exposed, and the condyles of the humerus, and one and a half inch of its shaft were removed with the chain saw. The olecranon ulnæ was removed with bone pliers.

All the diseased portions of bone being apparently taken away, and the bleeding arrested, the flap was restored to its place by a couple of sutures.

The patient being removed to bed, evaporating lotions were applied, and the arm was extended on a pillow until cicatrization was effected, which took place in about a fortnight. A roller was then applied, and the forearm was gradually flexed.

The hectic ceased after the operation, and his general health improved very much. He was allowed to take open air exercise in the hospital grounds. Early in January, 1857, he unfortunately got intoxicated when out for exercise, fell and injured his elbow; an abscess formed, and the new tissues about the joint were destroyed. His general health again suffered, and although vigorous treatment was adopted, several small abscesses occurred in the neighbourhood of the joint.

In his out door exercise he was placed under the surveillance of another patient, who was supposed to be reliable, but, by some means he again obtained some grog, returned to the hospital drunk, and was very disorderly; in consequence of which he was discharged from the house, on the 19th of March, 1857.

After remaining in Kingston a few days he disappeared, and very probably sought admission to some other Provincial Hospital, but I have been unable to learn anything of the result of his case; however, judging from his condition and habits, and the condition of the joint when he was discharged from hospital, I fear the arm has been sacrificed.

Kingston, 5th April, 1861.

ART. XXVIII.—*Notes of cases in which Mr. Palmer's Voltaic Pocket Battery was used at St. Patrick's Hospital, under the charge of Dr. Hingston, on 9th May, 1861.*

No. 29.—Gastro-enterites.—D. O. W., aged 67, severe pain in epigastric region, with other symptoms. Needles were applied to seat of pain, and sponge saturated with salt water in hand. Vesication in 1½ minutes, with great relief. 10th. Still feels better.

No. 31.—Hemiplegia. Positive in affected hand, negative to cervical spine, redness of skin, no other results.

No. 71.—Painful affection of the limbs of many months duration. Positive pole to hand, and needles to lumbar plexus, continued for two minutes. Expresses herself much relieved and desires a repetition. Negative transferred to cervical region, and pain long felt in left arm is relieved. Says she has not been so well for months. 10th. Less free from pain than yesterday, yet feels much easier than before the use of the battery. Repeated again to-day, but although polar current was continuous the quantity was not so great.

No. 69.—Suppression of the menses for eight years in a plethoric but hysterical girl. Positive by means of a sponge isolated in a glass tube to uterus, and negative to cervical region. 10th. Great pain in lumbar region. Repeated on 11th with increase of pain.

No. 63.—Supra orbital pain with profuse lachrymation and photophobia occurring in general ophthalmia. Vesication of skin of temporal region in one minute, with very marked relief. 10th. Inflammation and lachrymation same, but pain still much diminished, as after application of yesterday.

Use of Voltaic Battery to be continued in cases 69 and 71.

From Mr. THOMAS JOHN HAYES, Resident Medical Officer, Toronto General Hospital.

I have tried Mr. Palmer's Pocket Voltaic Battery on several patients, with the consent of the respective medical officers interested in the cases, and must say that the relief afforded was in most instances very satisfactory.

A female patient was brought from the police station yesterday, in a state of high nervous excitement, I requested Mr. Palmer, who was then in the hospital, to try his battery, which he did with most extraordinary success. The patient became perfectly calm within a period of five minutes, and in less than fifteen minutes was in a quiet sleep, which lasted for nearly five hours, without any depressing effect on the system. This woman was not under the influence of alcohol at all. I believe her excitement is caused by some domestic affliction. From what I have seen I believe Mr. Palmer's invention will prove a very valuable aid in practice.

Toronto, 13th March, 1861.

From ROBERT CRAIK, M.D., Attending Physician, Montreal General Hospital.

I have had the pleasure of observing the effect of electricity, as applied by means of Mr. Palmer's Pocket Battery, in several painful diseases, and have no hesitation in declaring the beneficial effect to be more rapid and complete than after any of the methods formerly in use. I give in illustration the following case:—

Harriet Pepper, a patient in the Montreal General Hospital, had been suffering from severe muscular pain in the right shoulder and arm, to such an extent as to render even slight movement intolerable. By the use of the Battery she was able in less than five minutes to move the arm freely above her head, and

to dress herself without assistance. After the lapse of 48 hours the pain had not returned.

Montreal, 10th May, 1861.

LONDON CORRESPONDENCE, No. 5.

I am somewhat in arrears with my letters, but must plead occupation that scarcely left me any leisure the whole winter. I shall be a little more regular, I hope, for the future.

After a pretty severe and continuously cold winter, the weather is now breaking, and we expect an early spring with a warm summer. The latter is most desirable, for I may truly say that I have not known what a really fine warm summer's day is, since I have been residing in this peculiarly damp and raw climate.

Another winter session has just ended, and although it has been a busy one in point of numbers, yet it has been very quiet. Nothing has occurred of any note to interrupt the ordinary course of teaching beyond the loss of some of the Lecturers. Poor Dr. Baly's death produced a great shock upon the profession at large, from its suddenness and the horror connected with it. As your readers are no doubt well aware that it was by a railway accident, I shall refrain from going into particulars. He was one of the best and kindest men in London, a man with no pride or ostentation about him, and a true child of nature. His loss was deeply felt at Court, where he had the honour, so it is said, of playing many a quiet rubber with the Royal family. Dr. Rigby's illness was short and quickly fatal, from fungous disease of the bladder; he has been much missed this winter at the Obstetrical Society. His successor Dr. Tyler Smith will make a very popular president.

The Pathological Society has this winter outdone itself. Never has there been such an assemblage of interesting specimens exhibited as this session. The value of its labours is becoming more and more appreciated every day. At one of the meetings in November last, Mr. Canton (the arcus senilis man) exhibited the knee joints of an old Greenwich pensioner who had been a martyr to chronic rheumatic arthritis for many years. No body at first could believe they belonged to a human being, they were so much enlarged and spread out from ossific deposit. On looking at them before the meeting commenced I imagined they were the joints of some old spavined horse, until I heard a description of what they were.

These joints remind me of the subject of Excision of Joints. This operation continues to be largely practised, especially on the knee and elbow, and is occasionally resorted to in apparently the most hopeless cases with astonishing success. As an instance I may refer to a man aged 35 years, who was admitted into King's College Hospital under Mr. Fergusson's care the latter end of February with most extensive disease of his left knee joint. There was suppuration of its cavity and general disease of the synovial membrane and cartilages. It was a case of acute disorganisation, if I may so call it, and the man was sent up from the country to undergo amputation or resection. He was almost too low for either, but Mr. Fergusson on carefully going into the case, thought, that

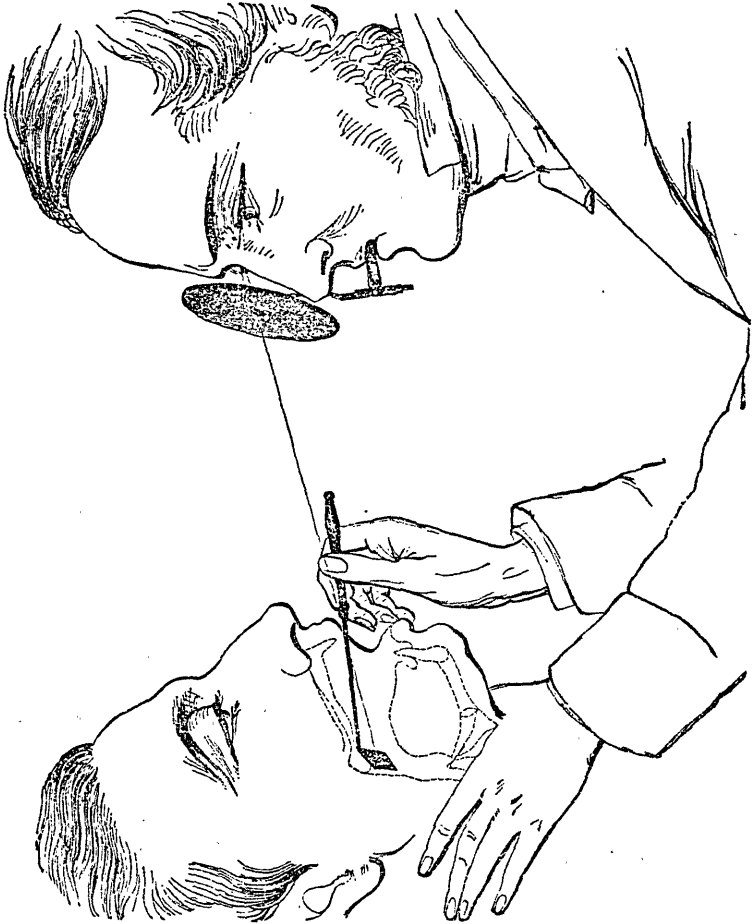
the chances would be more favourable from resection, as likely to produce less shock to the system than amputation. The joint was accordingly excised, and about $2\frac{1}{2}$ inches altogether of the surfaces of bone were removed. The disease had commenced in the cartilages and had produced pulpy thickening of the synovial membrane, with gelatinous degeneration of the immediately contiguous parts. As the joint was opened, pus flowed out, the parts fairly smoked from the heat, and the case really looked a most unpromising one. Scarcely any blood was lost. A large abscess that burrowed at the back of the thigh was laid open, and thoroughly emptied of pus. The patella was removed although not diseased, but the practice now is to take away that bone. A semilunar (and not the usual-) incision was employed in this case. The limb was carefully put up on a proper splint, the cut surfaces of the bones were adjusted, the wound closed by sutures and the patient sent to his bed.

This was a case fairly to test the merits of excision. From the man's very low condition, I felt satisfied that he could not live 12 hours after amputation, so much was he reduced. Nor did I expect more favourable results from the plan selected. To the astonishment however of every body, he commenced to rally from the very hour of the operation, and has completely recovered from the effects of his lately diseased knee, and is going on admirably. People require to see such cases as these, to become convinced of the value of resection,—of the knee-joint especially. Those who are opposed to this operation are surgeons who have neither seen it performed, nor watched cases in which it has been done.

On the same occasion another knee was excised, which no doubt many surgeons would declare to be a most unwarrantable proceeding, but it reminds me of the old adage that "the proof of the pudding is in the eating," for a good recovery was made. The patient was a pale, delicate-looking being 13 or 14 years of age with ankylosis and enlargement of his left knee-joint from old disease. The ankylosis was partly osseous, and the limb was in a faulty position. There was no break of surface, no suppuration, nor indeed any active symptoms beyond pain, uselessness, and consequent constitutional depression. Mr. Bowman excised the joint, and in doing this he was enabled to break up the adhesion between the tibia and femur, but not between the patella and the femur, which had become firmly united by bone. The condyles of the femur and patella were therefore removed together, and afterwards the upper end of the tibia. The cartilages of the joint were all absorbed. This boy went on equally as well as his predecessor, and will recover with a good and useful limb, one that will permit him to grow up a healthy strong man, able to walk and run about like other people.

No one has pursued the subject of excision with more energy than Mr. Jones of Jersey, who has excised every joint of the body, including even one of the spine. Its novelty has now worn off, and the operation is resorted to upon all the joints, in cases that demand it. An amputation of the arm, for disease of the elbow, even of considerable extent, is really a most serious matter, and surgeons must reflect well before they resort to it. I have seen elbows apparently hopelessly gone, and excision has been tried as a mere experiment, and yet the arm has been saved.

As promised in my last I must say a few words on the use of the Laryngoscope, the application of which is shown in the accompanying woodcut.



A section of the mouth only is given, with the position of the laryngeal mirror resting against the front of the velum palati. The mirror is oblique in direction and reflects the parts visible within the larynx, which are seen by the observer through the perforation in the large reflecting mirror placed in front of the right eye. A moderator lamp is presumed to rest on a table close by which throws a powerful light on to the perforated reflecting mirror, which transmits luminous rays upon the disc of the little mirror placed at the back of the mouth. That in the mouth must be first warmed in hot water or over the flame of a lamp, to prevent its becoming obscured. Nothing can be more simple than the application of this instrument, which in time will be found a most valuable auxiliary in throat and laryngeal affections. Already its value has been thoroughly tested by many clever men, who no doubt will give the fruits

of their experience by and by. Chronic affections of the larynx, minute polypi, ulcerations, paralysis of the vocal chords, and many other peculiar and obscure diseases of the upper part of the respiratory apparatus can be made out with the Laryngoscope. Czermak's perforated mirror is held in position by a wooden mouthpiece held between the molar teeth, this has been found very irksome to some examiners, and Weiss and Son have remedied it by attaching the mirror to one side of a nicely made spectacle frame, which permits the observer to look and to speak. It is awkward when directions are necessary to be given to a patient, to have to remove the mouth-piece each time; this is wholly obviated by Weiss's contrivance. The same apparatus is applicable to the inspection of the back parts of the nose, the pharyngo-nasal arch, &c. For commencing nasal polypi the instrument is invaluable, as it shows the actual site of their pedicular attachment.

Obscure cases of laryngeal disease that have existed for years, have had their true nature made out by the Laryngoscope. The appearance of Czermak's small monograph is anxiously looked for, because it will give all the information desired about its use, it is besides copiously illustrated with plates. The new Sydenham Society are expected to issue it to members, during the summer.

There is an *on dit* of a celebrated "stomach man" having invented an instrument for the examination of the interior of the great digestive organ, in obstinate and obscure diseases, which he purposes calling the *Gastroscope*. It mainly consists of a tube which passes down into the stomach through the œsophagus, and is so delicately arranged, that by a series of reflecting surfaces, the state of particular parts of the mucous membrane is shown in a mirror at the back of the mouth. No one however believes that the invention will come to anything, and for the present it forms a source of amusement at the idea of occasionally taking a peep at the interior to see how one's digestion is going on.

There is no country in the world perhaps, where souvenirs are more prized and valued than in England; a glance at any of our museums bears evidence of the truth of this. Large, however, as the collections belonging to the public are, they are exceeded by the immense number of objects scattered amongst the lovers of all branches of science, history, and art. The College of Surgeons of London, and other Medical Institutions have for years endeavoured to secure all objects of interest that have belonged to men eminent in our profession at different times, and their examination seems to recal the great names of the past. The College of Physicians possesses many valuable books, diplomas, and papers, which are exhibited when they have a conversation, and by the way speaking of this last, I may say for liberality, enjoyment, conviviality, association, and company, none other can come up to that of the London College. Whilst enjoying the hospitality of Mr. Henry Thompson on an evening in the month of January, the conversation turned upon the relics and souvenirs of those who are now numbered among the past, and occasion was taken by Mr. Thompson to exhibit a green shagreen lancet-case, with 6 pearl-handled lancets, which once was the property of one of the greatest of modern surgeons, the well known *Liston*. This lancet case possessed a double interest for it had the words engraved

upon a silver plate at the bottom. "Presented to Robert Liston by Dr. John Barclay." Those of the present generation may not be aware that the latter gentleman was distinguished in his time as a celebrated anatomist, and was the author of a work on the human arteries published at Edinburgh in 1812, a copy of which I have in my own library. As I understood from the conversation, and the remarks of Dr. George Webster of Dulwich then present, and who knew both persons well, Liston must have been a pupil of Barclay's at one time.

Whenever I see the case in the museum of the College of Surgeons filled with all sorts of curious *old* surgical instruments and appliances, I am reminded of a number of old lithotomy and other instruments which were preserved in the Montreal General Hospital. If they still exist they should be gathered together and placed in a glass case to form a nucleus for a collection of those things in the museum of McGill College.

At one of the hospitals (Middlesex) during the winter I have occasionally observed a young lady of good features and deportment; regularly present at the operations on females. She is, I understand, one of a number of the other sex, who is most anxious to learn the mysteries of medicine, but the Hospital authorities allow of their picking up but a moderate quantity of knowledge, for the young ladies do not attend *all* the classes indiscriminately.

The Volunteer movement in England has absorbed a large number of medical men among the recruits, who mix with their brethren in making themselves proficient to deal "blood, death and slaughter" amongst their country's enemies. The other day, I stopped in the street to see a fine looking battalion pass, and to my amazement among the pioneers, was a physician who is attached to one of our largest hospitals, a Fellow of the London College, and moreover an F.R.S. The mere mention of this will show the feeling existing amongst all ranks of the people. The expression used above of "blood, death, and slaughter," is at present in the mouths of a good many persons, who say that it is reigning in the profession. The origin of it, is an examination of the new Medical Register which actually records persons of those names. There is a Mr. Blood of Jersey, a Dr. Slaughter of Farmingham in Kent, and a Mr. Death (what a name for a surgeon) of Buckingham. All are worthy and respectable men, who are remarkable only for their names.

In the account of the life and writings of the late Dr. Holmes, given in your November number, I see no notice of a communication in the *Edin. Med. Jour.* by him, of a remarkable malformation of the Heart, which is preserved in the museum of McGill College. The specimen is probably unique and was taken from a school-fellow of Dr. Holmes. As near as I can remember the heart possesses but a single cavity. It is so remarkable and interesting that it is well worth republishing in your Journal.

I observe by the Journals (*Brit. Med. Jour.*, 30th March, p. 347) that at a recent meeting of the New York Path. Soc., a heart was exhibited that weighed 4 lbs. 6 oz., probably the heaviest on record. I remember well a heart in the possession of my former colleague Dr. David of your city which weighed 46 ounces, a drawing of which he had made. If he will send me the drawing

(*Can. Med. Jour.* p. 396) I will be happy to exhibit it before our Pathological Society, and would most religiously return it to him again.

LONDON, 4th April, 1861.

EDINBURGH CORRESPONDENCE.

By FRANCIS WAYLAND CAMPBELL, M.D., M.R.S.E.

'Tis true, as was remarked by the Professor of Midwifery in the University of McGill College, in his introductory letter of the present session, Edinburgh does not now hold the position in the medical world that she did twenty-five or thirty years ago. This is due to the greater practical advantages which the immense practice of the London hospitals affords to the student, for every year the immense benefit conferred by good clinical instruction is being better understood, and more thoroughly appreciated. But so long as the Edinburgh University has men like Simpson, Miller, Syme, Bennett, Christian, Balfour, and Goodsir, to fill their various chairs, it will ever occupy a leading position, only excelled by the great English metropolis. The number of medical students in Edinburgh this winter, is computed at a little over seven hundred; of this number rather more than five hundred are at the University, the remainder at the Royal College of Surgeons, who among their lecturers number some rising young men. I may mention Drs. Bigbie, and W. T. Gairdner. Of all the many universities on the American continent, I am glad to know that the University of McGill, which I am proud to claim as my *Alma Mater*, sends the best and most continual stream of graduates to this city in the further pursuit of medical knowledge. An eminent medical gentleman, a few days ago remarked to me, that he thought there had not been a single year, for some years back, in which there had not been a McGill College graduate in Edinburgh, and I was proud to hear the other morning from the lips of the President of one of the Royal Colleges here, that McGill College ranks in Edinburgh as the best and most complete Medical University in America. Good clinical instruction is to be obtained at the Royal Infirmary, their best clinical medical teacher being Dr. Bigbie, who usually spends between two and three hours daily in the hospital; the great teacher of clinical surgery is of course Mr. Syme. His lectures delivered twice a week are in their style quite novel to me. Instead of selecting some one or two cases in the hospital, as the foundation of his remarks, to occupy the hour, he will during that time exhibit on an average at each lecture, some seven or eight new cases, making but few remarks on each, but whatever he does say is most thoroughly practical, while those which require operations of a somewhat minor character, are there and then performed. Major operations are as a rule postponed till the succeeding day. Mr. Syme's class is very large, and he seems to be quite a favorite with the students; while he is speaking, as a rule, silence reigns supreme, indeed the slightest whisper annoys him, and when a student thus disturbs him, he does not fail to reprimand him before the class. As a speaker Mr. Syme is a very poor one. So much so, that a stranger has to attend several lectures before he can distinctly hear him. I have had the pleasure of seeing Mr. Syme perform his operation for disease of the ankle joint, several times.

He preserves the thick integuments of the heel for covering the end of the bone, and operates as follows:—The foot being held at a right angle to the leg, the point of the knife is introduced immediately below the malleolar projection of the fibula, rather nearer to its posterior than anterior edge, and then carried across the bone, slightly inclining backwards, to the inner side of the ankle, where it terminates at the point *exactly opposite* its commencement. The extremities of the incision thus formed, are then joined by another passing in front of the joint. He next proceeds to detach the flap from the bone, and for this purpose having placed the finger of his left hand over the prominence of the os calcis, and inserted the point of his thumb between the edges of the plantar incision, guides the knife between the bone and nail of the thumb, taking great care to cut parallel with the bone, and to avoid scoring or laceration of the integuments. He then opens the joint in front, carries his knife outwards and downwards on each side of the astragalus, so as to divide the lateral ligaments, and thus completes the dis-articulation. Lastly, the knife is carried round the extremities of the tibia and fibula, so as to afford room for applying the saw, by means of which the articular projections are removed, together with the thin connecting slice of bone covered by cartilage. The bleeding vessels being tied, and the edges of the wound stitched together, a piece of wet lint is applied *lightly* on the stump, *without any bandage*, so as to avoid undue pressure, in event of the cavity becoming distended with blood. When recovery is complete the stump has a bulbous form, from the thick cushion of dense textures which covers the heel and readily admits of being fitted with a boot. Of the great success of this operation of producing a most serviceable stump, I can speak most strongly. In addition to witnessing its performance many times, I have seen patients who were operated upon before my arrival in Edinburgh, and I must admit I *never* saw a more useful stump. One patient I saw this week had had the operation just described performed on both feet. With the aid of *one* stick he was able to walk quite well, while even *without* the stick he could run and jump, in a manner almost remarkable. Mr. Syme thinks this operation almost entirely free from danger to life. Before taking leave of this celebrated surgeon, I must give you a brief outline of an operation which I have seen him perform twice for the radical cure of reducible hernia. It is in principle precisely the same as that performed by Mr. Wutzer, and for which a most complicated instrument was invented by him. In truth, Mr. Syme has but greatly simplified Mr. Wutzer's operation, which consisted in invaginating a piece of integument so as to occupy the inguinal canal. Mr. Syme does the same, with this difference, that the means used are extremely simple. All that is required is an elongated body of some kind, such as a piece of bougie, a bit of wood, or even part of a wax candle, (through what is used a hole is drilled,) a piece of string thread, and a needle such as is used in sewing up dead bodies. The operation is performed as follows:—The string is passed through the hole in the end of the body, the needle is threaded with one end of the string, and laid with its concavity resting on the forefinger of the left hand, which is then passed up along the cord within the external ring; the needle is then turned round, so as to bring its point upwards, and passed with an inclination to the left, through the textures, and

brought out on the surface of the abdomen ; the other end of the thread is then passed through the parietes in the same way, only this time the inclination of the needle is to the right ; the two threads are then pulled tight enough to draw the body used up the canal. The body used is smeared with Ungt. Cantharadis, so as to irritate the skin, and favor the formation of adhesions. The two ends of the thread are tied together, and to prevent any chance of cutting through the skin too fast, a bit of elastic bougie can be placed below them. A compress is placed over the groin, and kept *in situ* by means of a bandage for about a week. In both cases, where I saw this operation performed, the patients are quite well, *not the slightest impulse* being felt on coughing.

I had the pleasure of attending lately a meeting of the Medico-Chirurgical Society of Edinburgh, when several interesting papers were read. Dr. Laycock, Professor of Practice of Medicine in the University, exhibited a very beautiful specimen of Favus affecting the entire body. The disease had existed for many years in the head, but lately, when the patient was suffering great privations, it extended to other portions of the body. I have succeeded in obtaining two very fine stereoscopic photographs of this patient, which give a very exact idea of the extent of the disease. I may state that the application of stereoscopic pictures to the illustration of skin affections, and surgical operations, &c., is very general in this country. Dr. Laycock also showed the brain of a patient who died lately under his care in the Royal Infirmary. He had been admitted on account of cardiac and pulmonary disease, and went on for some time without manifesting any head symptoms. One day he became suddenly hemiplegic, and so continued till his death, which took place a few hours after. He never showed the slightest symptom of brain disease till the attack of hemiplegia, yet at the *post mortem*, the whole upper surface of both hemispheres was covered with a layer of pus, showing that inflammatory action had been going on for some time. Many other interesting subjects were brought before the Society, but time forbids me mentioning more. Why cannot Montreal sustain a society of this character? I think it would be of most decided benefit to the profession. On Friday evening last I had the pleasure of attending by invitation, a conversation given by the Royal College of Surgeons in their hall, the invitations were entirely to medical men. It was, as the President observed "a family party." Dr. Douglas Maclagan, the president, received the guests as they arrived. Many came a great distance to attend it. A most able lecture on the use of the ophthalmoscope, was delivered by Mr. William Walker, F.R.C.S.E., ophthalmic surgeon to the Royal Infirmary. In an ante-room were sixteen microscopes, and under them the most beautiful preparations of the eye that it was ever my good fortune to see.

The University written examinations (primary,) for the degree of M.D., took place on the 28th and 30th March, from 12 to 4 p. m. each day, there being three questions on each branch. I have obtained the questions on two of them, and in my next letter will give them, as they may be somewhat interesting to Canadian students. One hundred and eight candidates presented themselves ; of this number four gave answers so satisfactory, that they were passed without any oral examination, and some of course were rejected. Dr. Niven of this city,

whose acquaintance I have enjoyed during my sojourn here, has lately (within this present month,) brought under the notice of the profession, a new operation for the relief of strangulated hernia. He conceives it to be most useful in the case of small and recent protrusions, when there is little chance of adhesions being formed. The operation proposed is as follows:—An incision is to be made in a vertical direction, about an inch or an inch and a half above the neck of the sac, dividing the skin of the abdomen, and gradually diminishing in extent till the peritoneum is reached. The peritoneum is then to be opened to the extent of admitting a blunt hook, or what is perhaps better, a fine curved pair of forceps, with which the neck of the protruding intestine is to be grasped and gently drawn upwards, while the taxis is applied from the outside to assist. The wound is then to be closed with a harelip pin or wire suture. Should this proceeding fail from any cause to effect reduction, it is open to the surgeon, either to enlarge the wound, so as to admit the finger, and to divide the stricture from the inside, or to perform the usual operation. The advantages of this operation are the small incision into the peritoneal cavity, and that in a sound place, and the avoidance of the exposure of the protruded bowel to the finger required in the usual method. Dr. Niven has, I understand, performed this operation with great success.

Having written quite sufficient for one letter, I will close. You may expect to hear from me soon.

Edinburgh, Scotland, 10th April, 1861.

REVIEW DEPARTMENT.

ART. XXIX.—*The New Sydenham Society.—Atlas of portraits of Diseases of the Skin, issued by the New Sydenham Society. First Fasciculus, containing three portraits selected from Hebra's Atlas, from nature.* By Dr. ANTON ELFINGER; published in Vienna for Professor Hebra, by the Imperial Government. Copied in London for the New Sydenham Society.

We were exceedingly pleased with the reception, about two weeks ago of three beautifully executed Chromo-lithographs of Skin Diseases copied from the Atlas of Prof. Hebra of Vienna, by the New Sydenham Society. They are exquisite drawings and faithful delineations of the diseases which they represent, and all very nearly the size of life. The first portrait is that of Favus, the second of Favus et Herpes Tonsurans, and the third of Lupus Exulcerans. While we must admit that this New Society has most amply redeemed its pledges towards those who have supported it, we must at the same time acknowledge to some degree of surprise, that it is enabled to supply its subscribers with so many really valuable works for the small annual subscription of a guinea. We question much that, if these plates were obtainable from booksellers, they could be purchased at a price much lower than five shillings each, and yet the Society has not only returned these, but also three other valuable volumes, for the annual subscrip-

tion of last year. It thus becomes clearly manifest, that as its list of subscribers increases, so will each one receive the more for his subscription; and we know of no argument, so powerful as this, not only to prompt regularity in remitting their annual dues on the part of subscribers, but to induce them also to use their influence with their friends to permit the addition of their names. It is by thus strengthening the hands of the Society, that it can continue its labours for the benefit of the Profession, and while it lays out on its publications every shilling which it receives, it is clear, that the larger the amount which it has to disburse in this manner, the greater will be the acquisition of the members.

ART. XXX.—*On Canadian Caverns (read before the British Association of the Advancement of Science at Aberdeen, 16th September, 1859.)* By GEORGE D. GIBB, M.D., A.M., F.G.S., &c., with eight plates. London, The Geologist Office, 1861, pampht. pp. 29.

Dr. Gibb has instructed the British public, as well as ourselves, in the existence within the boundaries of Canada, of a series of caverns, more or less perfect, of which we had not the slightest idea. We were well acquainted with the one on this island, to which the author's own name has been given, and his investigations into this curious subject most emphatically entitle him to that honor.

For convenience of description the author divides the caverns of Canada into two classes; the first comprising "those which are at the present time washed by the waters of lakes, seas and rivers, including arched, perforated, flower pot, and pillared rocks, which have at one time formed the boundaries or walls of caverns; and all of them unquestionably the result of aqueous action;" the second "comprising caverns and subterraneous passages which are situated on dry land, and, so far as we know, not attributable to the same causes in their origin as the first," thus indicating a volcanic origin, although the author scarcely goes so far as to enounce this view.

The following is a list of the caverns recognised under the two foregoing divisions.

In the first class are included the following:—

1. Caverns on the shores of the Magdalen Islands.
2. Caverns and arched rocks at Percé, Gaspé.
3. Gothic arched recesses, Gaspé Bay.
4. The "Old Woman," or flower-pot rock, at Cape Gaspé.
5. Little River Caverns, Bay of Chaleur.
6. Arched and flower-pot rocks of the Mingan Islands.
7. Pillar sandstones, north coast of Gaspé.
8. Niagara Caverns.
9. Flower Pot Island, Lake Huron.
10. Perforations and caverns of Michilimacinae, L. Huron.
11. The Pictured Rocks, Lake Superior.
12. St. Ignatius Caverns, Lake Superior.
13. Pilasters of Mammelles, Lake Superior.

14. Thunder Mountain and Paté Island Pilasters, L. Superior.

In the second class are :—

15. The Steinhauer Cavern, Labrador.
16. The basaltic caverns of Henley Island.
17. Empty basaltic dykes of Mecattina.
18. Bigsby's Cavern, Murray Bay.
19. Bouchette's Cavern, Kildare.
20. Gibb's Cavern, Montreal.
21. Probable Caverns at Chatham, on the Ottawa.
22. Colquhoun's Cavern, Lanark.
23. Quartz Cavern, Leeds.
24. Probable caverns at Kingston, Lake Ontario.
25. Mono Cavern.
26. Eramosa Cavern.
27. Cavern in the Bass Islands, L. Erie.
28. Subterranean passages in the Great Manitoulin Island, Lake Huron.
29. Murray's Cavern and subterranean river, Ottawa.
30. Probable caverns in Iron Island, Lake Nipissing.

These caverns, more or less complete in their formation, or once formed deformed or unformed, are met with in different geological formations. The Red sandstone formation seems to have furnished the greatest number, but the Trenton Limestone formations are by no means deficient in them. In this formation is the one which exists in this island, a short distance from the residence of P. Dodd's, Esq., at Petite Côte, about five miles from this city. We think we cannot do better than transcribe Dr. Gibb's own description of it, as it may excite visits to it.

20.—GIBB'S CAVERN, MONTREAL.*

"This cavern, which is of humble pretensions as to size, is situated in the Island of Montreal, and no account of it had appeared before the one which I published in the "Canadian Naturalist and Geologist" for June, 1858. My attention was first drawn to it by my friend Dr. Robert Nelson, formerly of Montreal, and now of New York.

The cave exists on the border of a limestone ridge, running in a north-east and south-west direction, which skirts a number of farms back of the main road at Côte St. Michel. Its dimensions are twenty-five yards or more in depth, with a width of two or more yards. The latter varies a good deal and is somewhat irregular, but the roof is considerably wider than the floor, which is covered with water to the depth of some feet. A part of the floor will permit of a footing, and when in the cave a person can stand upright, with plenty of room to spare. The roof is composed of limestone, and lined with a coating of stalactical carbonate of lime, but from which there do not project any stalactites; some portions of the floor, however, contain stalagmites, a few specimens of

* The association of my name with this cavern by a friend is my excuse for retaining it here.

which were collected. No bones of animals were found, possibly owing to the presence of the water. Their existence can only be ascertained by pumping the water out, which may overlies a sort of breccia. The ridge, which is composed of the Trenton limestone, here partakes somewhat of the character of a hill, at the base of which is an opening leading into the interior of the cavern. It was accidentally discovered some thirty years ago on the occasion of a party of *habitans* going out hunting. The dog belonging to the party commenced to scratch at the spot which forms the entrance, and suddenly disappeared; the animal had fallen into it, and his cries brought the hunters to the hole in the ground. The opening was enlarged, and the party entered by crawling on their hands and feet."

From the description of the cavern, it would appear that its origin is due to upheaval from below, producing a dislocation of the stratum of limestone and the formation of a wide fissure, which may be found ultimately to extend much further than the distance given in the foregoing account. The discovery of this cavern was looked upon at the time as something very wonderful.

But the most interesting one is Bouchette's cavern at Kildare of which the author thus writes:—

19.—BOUCHETTE'S CAVERN, KILDARE.

"This cavern was visited and first described by Colonel Bouchette (Surveyor-General of Canada) in the report of his official tour through the new settlements of the lower province in 1824. It is situated in the township of Kildare, about thirty-five miles due north of the city of Montreal, but the precise locality I have been unable to determine, although from the description it may be close to the village of the same name. The southern half of the township is traversed by a broad band of the Potsdam sandstone, in continuation of the same rock running in a north-east direction from the south-western part of the township of Rawdon. That part of Kildare north of this band is composed of gneiss and the Laurentian system, most probably interstratified with some bands of crystalline limestone, in which the cavern is developed.

It was about the year 1822 that two young Canadian peasants, whilst prosecuting their sport of hunting the wild cat, pursued two of their game, until entering an obscure hole a little above the bank of the river, they lost sight of them. The more enterprising of the two attempted to enter the aperture in the rock, at that time barely sufficient to admit of his crawling into it, but without success. Providing themselves with lights, a second attempt was more successful, for "not only did they secure their prey (of which they have preserved the skin to this day), but they discovered," says Colonel Bouchette, "another of the many phenomena of nature, a description of which cannot be uninteresting."

The following account is given in the Colonel's words:—

"I descended into the cavern by means of a trap-door, which has recently been placed at one of its angles for the facility and convenience of strangers desirous of visiting this singular spot, having as my guides two of the inhabitants of the neighbouring house, bearing lighted tapers. The height of the cave

where we entered is five feet, from which angle branch off two caves, the lesser whereof is of the following dimensions:—

Length.....	25 feet.
Breadth varying from.....	2½ to 9 “
Height.....	5 “

It bears about a south-east course from the entrance.

The other has in length.....	70 feet.
Width from.....	7 to 8 “
Height, gradually increasing.....	5 to 13 “

“The increase in the loftiness of the cave originates from the declivity of the ground part, which, at the north-eastern extremity, is at least twenty-three feet from the surface. It forms nearly a right angle with the first, at its south-western end, and an angle scarcely obtuse at the other with another cave, whose

Length is.....	80 feet.
Average width.....	6 “
Height.....	5 “

At the south-eastern extreme of this cave branches off another of inferior size and consequence, bearing about a due north course, as may be deduced from the angle it makes from the last described.

It is in length.....	20 feet.
Width.....	5 “
Height.....	5 to 4 “

“At the outward angle formed by this cave with the preceding one, is to be seen a nearly circular aperture of about a foot and a half in diameter, which leads to a cavern yet unexplored, the extent whereof is not known with any certainty; but conjecture and supposition will have it to extend two arpents—an astonishing distance as a natural subterraneous passage. Summing the lengths of the several caves above-mentioned together, we have a total distance of a hundred and ninety-five feet in subterraneity in the solid rock, offering a beautiful roof of crystallized carbonate of lime, carved as it were by the hand of art, and exhibiting at once the sublimity of nature, and the mastery of the all-powerful Architect of the universe.” (See plan, plate x.)

From the foregoing description there would seem to be five different caverns or galleries, and probably many more, if the fifth has been since explored. Three of them branch off from the entrance in different directions, whilst the remaining two do so at the termination of the central gallery. The roof throughout is covered with stalactites, but as no mention is made of stalagmite, nor of the presence of bones, we are left to conclude that they were absent, although the chances were much in favour of finding the latter, in consequence of there being a free and unobstructed entrance into the cavern.”

A curious fact in regard to these caverns is that no animal remains have yet been discovered in them except in one instance, and then under conditions rendering it more than probable that they were of recent deposit probably from the repast of some wild animal. Nor have any Indian remains, such as spear-heads or utensils, been found. It is not improbable that were they thoroughly searched, and the accumulation of centuries removed from their floors that interesting relics of preceding eras might reward the investigation.

PERISCOPIC DEPARTMENT.

MEDICINE.

ACTION OF CHLOROFORM ON THE BLOOD—PROBABLE CAUSES OF ITS FATAL EFFECTS WHEN INHALED AS AN ANÆSTHETIC.

BY CHARLES T. JACKSON, M. D.

Six years ago, I published in the *Boston Medical and Surgical Journal* a case in which sudden death was produced in a healthy young woman by inhalation of pure chloroform, given preparatory to extracting a tooth. The case was investigated by a coroner's jury, a *post-mortem* examination being made by Dr. Stedman, Dr. F. S. Ainsworth and myself. The blood taken from the right side of the heart was analysed, and was found to contain formic acid in considerable quantities, but no chloroform in an undecomposed state. Microscopic examination of the blood, by Dr. J. Bacon, showed that the blood-globules were withered up in a very remarkable manner. Chlorine was also found to be a component of the blood. It was also observed that this blood did not coagulate, nor did the blood-globules subside, but the whole remained a solution, the blood having a cranberry-red color, like red ink.

I have now a phial of this blood before me, it having been kept in my office, exposed to temperatures from the freezing point to above 80° for more than six years, and yet it has not decomposed, nor has a single blood-globule settled to the bottom of the phial, nor has the color changed in the least.

Attention is now called to these remarkable phenomena, which appear to throw some light on the chemical action which chloroform exerts on the blood. As I view the matter, I consider the chemical action on the blood by inhaled chloroform to be this:—Chloroform consists of one equivalent of formyle and three of chlorine. Formic acid consists of one equivalent of formyle and three of oxygen. When chloroform is inhaled into the lungs, the oxygen is abstracted from the blood, and combining with the formyle makes formic acid, while chlorine combines with the blood as a substitute for oxygen.

Thus a portion of the blood becomes chemically changed, disorganized and rendered unfit for its vital functions. Then, if that portion of the blood contained in the heart and large vessels, which we may style the immediate working blood of those organs, is vitiated so as no longer to be an appropriate stimulus to the most vital organs, sudden death is most likely to take place through cessation of their action. Our only surprise should be that death does not more frequently follow from inhalation of this dangerous anæsthetic agent, for the decomposition I have described undoubtedly always takes place to a certain extent, and to a sufficient degree to deoxidize a considerable portion of the blood, and to charge it with chlorine and formic acid.

It is well known, that deaths more frequently take place in cases where chloroform is administered in minor surgical operations, or in cases where there is no loss of blood, than in larger and bloody operations.

This I think admits of an explanation in the fact, that where there is large hæmorrhage the vitiated blood, or a portion of it, is removed and is replaced in the vital organs by blood coming from other parts of the body, where it has been but little acted upon by the chlorine—a new working blood being drawn into the large circulating organs, which are thus enabled to continue their proper action, and to supply the brain with its appropriate stimulus. This hypothesis appears to me to cover the cases thus far reported, and I offer it for the consideration of physiologists.

The great disadvantage under which chloroformization labors is the introduction of chlorine, as such, into the composition of the blood. This we know to be destructive of the blood-globules, and an actual poison in the system.

We naturally inquire how this vitiated blood is got rid of, for it evidently never can be re-organized in the circulation. It is undoubtedly thrown off as so much effete mat-

ter, by the secernent and excretory organs, and chiefly by the kidneys. Hence, in a large majority of cases, the patients recover with but little damage to their health, though there is always a degree of prostration in most if not all cases of chloroformization.

It is obvious that we may much diminish the danger in employing this agent, by mixing with it a large proportion of pure ether say at least three fourths of its bulk. By this means we not only dilute the dangerous with a perfectly safe anæsthetic agent, but add the stimulus of ether to overcome the deadly, depressing effects of chloroform. The object in allowing any addition of chloroform to ether, was to obtain a less bulky and more powerful agent than pure ether alone, and to afford greater facility in carrying an anæsthetic agent into the field of battle. It was therefore recommended by me, and was used in the French and Sardinian armies of the Crimea, with great success and safety, while chloroform, which was employed by the English surgeons, produced many fatal accidents. Still, in cities and at home, or in hospitals, I should always prefer pure washed ether, as it is known to be a safe and sure anæsthetic agent, though it is somewhat bulky. However, from my own experience and observation, I must say I never have known any fatal or even inconvenient effect to result from the employment of the mixture of chloroform and ether in the proportions I have named.

In Austria, by orders of the Government, one ninth of the bulk of chloroform is added to ether, and this is employed in the Austrian hospitals and armies. Its introduction was effected by Dr. Weiger, of Vienna, and it is stated that no fatal accidents have thus far arisen from its use. It is obvious that the dangers from chloroform are diminished in the direct proportion to its dilution with ether. The surgeon is more able to guard his patient from an over-dose, and the comparative lightness of ether, when compared with chloroform, together with the stimulating nature of ether, allows the more ready exhalation of the vapor, and prevents nervous depression from going too far.

As to the impurities of chloroform of commerce, I am aware that it is liable to contain fusel oil and the products arising from decomposition of that poisonous fluid; also free chlorhydric acid, and sometimes sulphurous acid, are present in badly-prepared chloroform. Such chloroform we should at once reject, as being wholly unfit for inhalation, either alone or in any mixture.

Some chloroform, from causes not yet fully known, readily undergoes spontaneous decomposition, with the disengagement of pungent fumes of chlorhydric acid gas. I have two samples now on hand which have thus undergone decomposition. This chloroform was made according to directions contained in the United States Dispensatory, by one of our most skilful pharmacutists. When freshly prepared, it appeared to be of good quality, but in a few months underwent decomposition, as above stated, and without having been exposed to direct sunlight.

Chloric ether, so called formerly, is nothing but an uncertain mixture of chloroform and alcohol. When administered on a wet sponge, the alcohol is retained by the water, and only the chloroform is inhaled by the patient. The first samples introduced here were merely the unwashed first runnings of the chloroform still. Subsequently, the article was made more uniform in strength, by dissolving one measure of chloroform in three measures of 95 per cent. alcohol. This preparation is now but little used as an anæsthetic, several deaths having resulted from its inhalation—one at Lynn and another at the Chelsea Marine Hospital will be remembered by physicians in this vicinity. It is well known that there have been a large number of deaths caused by the inhalation of chloroform, while it is believed here that there are no well-ascertained deaths resulting from the use of ether. That deaths occur in grave surgical operations, many hours or days after an operation effected under etherization, is no evidence that the ether caused the death or had anything to do with it, and yet we see such cases tabulated and presented to the public as proofs of death from etherization. Such reports should not be adopted without careful analysis and discrimination of the real facts concerned.

Lest some persons may suppose that the discoverer of etherization is jealous of any

substitute for ether, let me say that I was the first person in this country who adopted Waldie and Simpson's substitute for ether, and that I not only made the first pure chloroform, and distributed it gratuitously to physicians, but also induced a manufacturer to procure one of the largest stills, and instructed him in the process of the manufacture and purification of chloroform. I also made public trials of the effects of this preparation, administered it to our late chief surgeon, Dr. J. C. Warren, and aided in every way the introduction and use of this new agent. Experience has at length satisfactorily proved that chloroform is a dangerous substitute for ether. I feel bound, therefore, to aid in calling upon the medical public to return to their original anæsthetic agent, pure washed ether.

Tests for Chloroform.—The following are the approved tests for chloroform:—

1st. For *Alcohol*.—Take its specific gravity at 60° Fah.; if it is lower than 1.496, alcohol or ether may be present. To test for alcohol, take a graduated glass test-tube, put in a given measure of the chloroform, and add water. Then shake up quickly, stop the tube, and set it in a cold place until the chloroform has entirely subsided; observe how many divisions the chloroform has contracted to, and thus measure the proportion of alcohol that has been dissolved by the water.

2d. For *Aldehyde*.—Hydrated oxide of silver is reduced by it to the metallic state without heating. A solution of caustic potash turns the aldehydic chloroform brown.

3d. *Formic acid* reduces nitrate of silver to the metallic state, when chloroform containing it is mingled with a solution of the nitrate of silver and is heated.

4th. *Chlorhydric or muriatic acid* is detected, first, by the acid and pungent fumes of the gas; secondly, by the formation of a dense white cloud, when a feather dipped in aqua ammonia is brought over the impure chloroform; thirdly, by the formation of a white precipitate of chloride of silver, when nitrate of silver solution is added. Litmus paper, wet with pure water, is instantly reddened when held over the mouth of a bottle containing chloroform, giving out chlorohydric acid gas.

5th. *Hypochlorous acid* may be detected by its odor, and by its first reddening litmus paper and then partially bleaching it.

6th. No ready and satisfactory tests for the presence of *methyle* are yet known, but its effects on inhalation are known to be, a peculiar throbbing headache, and rapid prostration of the vital powers. Dr. Letheby states that these effects may be observed, on merely smelling of a chloroform containing these compounds, the headache coming on in a short time.

7th. *Sulphurous acid* may be detected by its odor, being the same as that of a burning sulphur match, and by its bleaching litmus paper.

8th. *Hydrochloric ether* may be washed out from chloroform by water, and be obtained by distillation of the aqueous mixture.

Dr. Letheby states that, chloroform should be perfectly colorless and free from opacity; that its specific gravity should be near 1.496. It should neither redden nor bleach litmus paper. It should not become opaque when dropped into water. It should not become cloudy and white when nitrate of silver solution is added to it. It should not coagulate white of egg; and, we may add, it should not turn brown when concentrated sulphuric acid is mingled with it, nor should it be made brown by the action of a strong solution of hydrate of potassa. It should leave no odor on a sheet of blotting-paper from which it is evaporated.

By these tests the physician and surgeon who employs chloroform as an anæsthetic, may know whether he has a pure or an impure article to operate with.—*Boston Med. Jour.*

A PATHOGNOMONIC SIGN OF SCARLATINA.

For some years past, M. Bouchut (*Journal Practical Medicine and Surgery*) has been in the habit of pointing out in his wards a curious sign which assists in the discrimina-

tion of scarlatina from measles, erythema, erysipelas, etc. It consists in a vascular phenomenon, proportionate in intensity to the extreme contractibility of the capillaries over the part of the skin in which the eruption exists by pressure with the nail. We refer to the enduring *white stripe* produced at will by drawing the back of the nail or any other hard substance upon the exanthematous surface, producing a white streak, which lasts one or two minutes, and sometimes more. Figures may thus be traced upon the skin, the lines of which are conspicuous from their whiteness. With a blunt probe or pen-holder, the diagnosis of the disease may be distinctly inscribed on the integument, and after a minute or two the word *scarlatina* disappears, when the uniform tinge of the eruption again invades the written surface.

This phenomena is observable in scarlatina only. The scarlet hue of measles is not uniform, the eruption consisting of mottled patches, with very slight elevations separated by interstices of healthy skin. In measles the procedure we have described would produce an alternately red and white streak, enduring a much shorter time than in scarlatina. In erysipelas, in the redness induced by a mustard poultice, in solar erythema, the white line we allude to is not visible; and without attributing to this sign an undue degree of importance, it may be said to supply one more element in the determination of the characters of the eruption of scarlatina.—*Med. and Surg. Rep.*

CHLORATE OF POTASH AND GLYCERINE AS A TOPICAL DISINFECTANT.

Experiments instituted at Bicêtre, under the direction of M. Martinet, have demonstrated remarkable disinfecting properties in a mixture of chlorate of potash and glycerine according to the following formula:—Chlorate of potash in powder $2\frac{1}{2}$ drachms; glycerine, 3 ounces; mix. This mixture has been shown by repeated trials, to present.—1st. A marked disinfecting power, due perhaps to the change which it produces in the secretion, and the mode of action of the wound. 2nd. The property of giving the pus, even when of a serous kind, a greater consistence, often like cream. This result is perhaps, according to M. Martinet, a physical effect of the affinity of glycerine for water, which it subtracts from the pus; but is partly due to the favourable modification which is produced in the suppurating surface. He is inclined to think, that the preparation of glycerine and chlorate of potash may, by thickening the pus, tend to prevent the occurrence of purulent or putrid infection, which generally takes place in connexion with suppuration of a serous and unhealthy character. An advantage of the glycerine is, that it prevents the dressings from sticking to the edges of wounds. According to M. Martinet, the glycerine chlorate of potash is not adapted for wounds or sores of a bright red colour, nor for those that are recent or of healthy appearance.—*Rep. de Pharm. and Edin. Med. Jour.*

BELLADONNA IN EPILEPSY.

By WILLIAM SANKEY, F.R.C.S. Dover.

Catherine P. McKenzie, aged 5 years, came under treatment September, 26th, 1860, suffering from epilepsy. The account given by her mother was, that from her birth she had been a remarkably healthy child till two years ago, when she was attacked with diarrhoea, which was allowed to go on for four or five weeks, producing great weakness. Soon after this, the first fit occurred; and for nearly three months she had two or three daily. These soon ceased, without medical assistance; and she got well, and continued so till the summer of 1860, when she was suddenly again seized with the fits, accompanied with loss of power on the right side. The fits continued increasing in spite of various modes of treatment; and became almost incessant day and night, with total loss of power in the limbs and muscles of the neck; but she still retained a degree of consciousness. The treatment consisted in purgatives and counter-irritation by blisters

behind the ears and nape of the neck, succeeded by various tonics and cod-liver oil; the bowels being kept regular by small doses of castor-oil. The state of the poor little sufferer at this time appeared hopeless. On Dec. 27, I prescribed one-twelfth of a grain of the extract of belladonna to be given three times a day, gradually increasing the frequency of the doses to every six and four hours. The effect was most decided; the fits, instead of recurring every hour or two, on the 1st of January only occurred once in twenty-four hours. The appetite was improved, and the digestion was good. As the beneficial effect of the remedy was now established, and the pupils were rather dilated, it was deemed proper gradually to lessen the frequency of the doses, which was done till only one dose was given in twenty-four hours. During this time, recovery went on steadily and progressively. On the 8th of March I last saw the patient, and was told by her mother that she had had no fits for the last two days, and for the four previous days only one each night, and that less in violence or duration. "She is still unable to stand or walk, but has perfect use of her hands, and speaks tolerably well. I consider that time is now only required, with the assistance of exercise in the open air, &c., to complete the cure.—*British Medical Journal*.

CHILDREN'S HOSPITAL, BOURDEAUX.

DR. LE BARILLIÈRE, Attending Physician.

CASE OF CYANOSIS.

SINGLE VENTRICLE; PULMONARY ARTERY STRICTURED AT ITS ORIGIN.

Antoine Lausadet, born on the 14th March 1852, was admitted into the Hospital on the 15th, where he remained until the 30th of the same month, at which period he was given out to nurse in the Department of the "Clarente Inferieure." The notes taken by the Inspecting Physician as to the child's condition, at the time of admission, could not be found. The nurse reported, that the infant during the whole time she had charge of it, never kept its bed, although its health seemed to demand it. After the least fatigue, and especially after walking, its lips and hands became blue, and it appeared oppressed. This condition augmenting from day to day, she was compelled to see the Inspecting Physician who sent the child to the Hospital on the 11th May 1859. The notes of this Physician pointed out, that the child was suffering under aneurism.

At its admission into Hospital the child was submitted to our examination. It was 7 years of age, large enough, height 3 feet 3 inches, skin fine and white, hair flaxen, eyes blue, temperament lymphatic, of delicate constitution, and slightly developed muscular system, especially in the lower extremities. His appearance was mild, docile, and of timid expression, intelligence ordinary. The skin of the face was deeply tinted blue; the depth more marked on the lips, eyelids and ears. The feet and hands were cold and of a livid blue, especially the fingers and toes which were long, slender and thickened at their extremities; the nails presented the olive shaped conformation. This blue tint disappeared nearly entirely for a while after long repose and chiefly in the morning, but it became more marked during digestion, coughing, walking, or cold, to the latter of which the child was particularly sensitive. The little patient seemed pleased with his bed in which he always doubled himself up, the knees to his chin.

His chest thin and contracted superiorly was remarkable for its sternal projection. There was well marked dullness in percussion not extending below the level of the 5th and 6th ribs. The pulsations of the heart, violent and tumultuous, were easily perceptible. Auscultation afforded a dull, bruit (brouissement sourd) around the region of the heart. It was difficult to determine whether this sound preceded or followed the first of the heart sounds which were obscure and apparently confused. He felt pain in the same region, which occasionally impeded his respiration, and which always pre-

ceded the attacks which we shall shortly mention. A distinct bruit desouffle was heard in the carotids; the pulse was small, frequent, and irregular, from 90 to 100 in the minute.

The respiration was short, cough frequent with distinct dyspnoea. Auscultation of the lungs yielded nothing of importance, except an acceleration of the inspiratory movements from 30 to 32 per minute. Two or three times a day he experienced a sensation of suffocation with extreme dyspnoea, and a hard and fitful cough. The face became completely blue, and asphyxia seemed imminent. The pulse then became filiform or thready and hard, beating 110 or 120. After the attack which usually lasted 5 or 6 minutes, and which ended in yawning and sobbing, he experienced an undefinable uneasiness lasting at least half an hour. The attack was always foretold by the patient, who felt as we have stated a severe oppression in the præcordial region ending in insensibility.

The headaches became frequent, and were always severe after the attacks. There was but little appetite, but digestion usually perfect. His voice was feeble. He seemed to avoid exercise, remaining willingly all the day seated on a chair or his bed. His extremities had a marked tendency to coldness, the temperature of his body even being lower than that of a child of the same age; thus the thermometer placed in the palms of the hands, in the armpits, and under the tongue gave for five days the following results.

Date.	Temp. of the Air.	Temp. of the room.	In the hand.	Thermometer placed in the armpit, under tongue.		Pulse.	Respiration.
June 16	55.4	60.8	96.8	98.6	100.0	108	31
17	53.6	59.9	97.7	99.5	102.2	106	33
18	59.7	62.6	95.0	96.8	99.5	102	32
19	55.9	60.8	96.8	97.7	100.4	101	31
20	52.6	59.0	94.1	95.0	99.5	96	30

(In the original paper the degrees are given in the Centigrade scale. In the above table we have reduced them to Fahrenheit.—Ed. B.A.J.)

The foregoing results approximate closely to those of Doctors Fane, Tupper, Nasse, and Hein, in analogous cases.

The dyspnoea, the cough, and the attacks of suffocation became more and more frequent, and the child became gradually weaker. Dr. Gintrac, Director of the School of Medicine, and Dr. Bitol, a Colleague at the Hospital, saw the child, and having examined him with great care, admitted thoroughly the nature of the disease and its symptoms.

In the month of September he could scarcely move himself; the least effort produced an attack of suffocation, which of themselves became more frequent, especially towards the evening. The headache persisted, the cough was almost continual, and the emaciation progressed. His senses became weakened, the skin became dry and rough, the pulse more and more frequent, 105 to 115 and thready; his appetite failed, diarrhoea supervened, the voice became weaker, and the perception of sounds less acute.

During the month of October, these symptoms still further increased, the little patient became confined to his bed entirely; the excretion of urine and fæces became involuntary, the œdema of the lower extremities increased, the cough became more frequent, the pulse almost imperceptible, and the heart movements weaker.

On the 10th November, he contracted measles, under which the patients in the two adjoining beds were suffering. The cough and dyspnoea augmented considerably, and on the 13th of the same month, about 2 p.m., the little patient gently expired.

The treatment adopted in the case was palliative. We contented ourselves with sustaining the patient's strength by a suitable regimen, and retaining round his person a uniform temperature. The cough and attacks of suffocation were combatted by sedatives and gentle antispasmodics.

A necropsy was made 26 hours after death by Mr. Cuillé, Interne of the Children's Hospital in presence of M. LeBarillier, Chief of the Medical Staff, and M. Brung, Interne of the Foundling Hospital.

External appearances.—Little cadaveric rigidity, skin blueish colour, especially

marked in the extremities, lips and nostrils, emaciation considerable, the muscular and osseous system little developed; œdema of lower extremities, the veins of all parts gorged with dark and thick blood, especially the jugulars.

Head.—The veins of the meninges of the brain, the vertebral arteries, the internal carotids were distended with blood of a violet colour. The brain itself was firm, and on cutting it by slices, the white substance was found studded with innumerable red points.

Thorax.—Lungs healthy but small and collapsed. The thymus gland was very large. I do not remember having seen it so large even in an infant born before time. The pericardium contained from one ounce and a half to two ounces of a yellow coloured serosity.

Heart.—Walls thick, filled with black blood and fibrinous clots, as well at the origin of the large vessels. Having been removed and carefully measured, it yielded the following dimensions:—

From the apex to the base of the heart.....	2.44 Inches.
Transverse diameter.....	2.08 "
Circumference of ventricular portion at widest part	29.92 "
From the uppermost part of the ventricle to the centre of the base anteriorly.....	2.52 "
From the uppermost part of the ventricle to the centre of the base posteriorly	2.12 "
Distance in a straight line between the right and left extremities.	1.97 "

There was no median furrow either anteriorly or posteriorly, nor was there any sloping of the upper part of the heart.

The ventricular portion was cut through longitudinally. There was found no inter-ventricular septum.

The thickness of the ventricular wall was considerable. The columnæ carneosæ were numerous and very powerful.

The pulmonary artery arose from the right extremity of the ventricle, with which it communicated by a narrow opening; the sigmoid valves presented nothing worthy of notice. The calibre of the artery was however less than usual. The aorta was dilated. It arose from the centre of the single ventricle, between the right auricle which was much dilated, and the left auricle which was rather contracted. The right auricular ventricular opening was larger than usual, but its valves presented neither ossification nor hardness. The arrangement of the venæ cava superior and inferior, and the pulmonary veins presented nothing worthy of note. The foramen of Botal was obliterated as well as the ductus arteriosus.

Abdomen.—The abdominal viscera presented nothing worthy of note, the liver only being larger than in the usual normal condition. The abdominal veins were slightly injected.

This case is singular on several accounts. Cyanosis, notwithstanding the praiseworthy labours of MM. Gintrac, Lewis and Ferrus, is still imperfectly understood. Two opinions are now entertained, the one which attributes the disease to the mixture of two bloods (Corvisart and Gintrac) and the other which regards it as due to an interruption to the circulation of greater or less magnitude. (Ferrus, Louis, and Grissolle.) Facts seem in favour of the opinion entertained by Gintrac, in an interesting paper by him.*

In this paper or memoir Mr. Gintrac has collected 53 cases of Cyanosis exhibiting anomalies of the heart and great vessels.

The case, now narrated, closely resembles cases 5 and 6 of that memoir, but differs in having but a single ventricle. The conformation of the heart of reptiles has been

* Observations and recherches sur la Cyanose ou maladie blue.—Paris, 1824.

rarely observed in man, and it ought to produce in him certain phenomena of the peculiarities of the life of that class of animals, and especially the want of calorification and consequently a tendency to coldness.

The mixture of the two bloods, and the complete want of oxygination are inevitable and appear, in this case as well as in three other ones observed, to be the chief cause in producing the Cyanosis. We also agree perfectly in the following opinion which Mr. Gintrac expresses in the memoir or paper alluded to.

"That organic lesions of the principal circulating vessel, do not constitute nor determine of themselves the Blue Disease, but that the immediate and essential cause of this affection consists in the alteration of the course of the dark blood and its introduction into the arteries." He adds a little further on "That this alteration in its course should occur there must exist, independently of organic alterations of the heart structure, either in its organization or the mode in which the junction of the two fluids is effected, some obstacle opposing its free course in its natural channels. Then the equilibrium which ought to exist between the two sides of the heart becomes destroyed, regularity of the circulation is at an end, and the venous blood mixing itself in varying proportions with the arterial, alters more or less its purity and colour, and transports throughout the organism all the disastrous influences of this disorder and deterioration."

In fine, the disease known under the name of Cyanosis, and characterized by the group of symptoms which we have pointed out, is the production only of a mixture of venous with arterial blood. If in some cases, in which the Foramen of Botal has continued open, this disease has not shown itself, it is because this mixture has not taken place; on the other hand, any arrest, whether permanent or temporary, of the arterial or venous circulation, is of itself incapable of giving origin to the symptoms characteristic of this affection.—*Journal de Bourdeaux, January, 1861. Translated by Editor B. A. J.*

PROMINENT EYEBALLS.

"EXOPHTHALMIC GOITRE"

At a recent meeting of the Academy of Medicine, in Paris, M. Aran, Physician to the Saint Antoine Hospital, read a paper upon the nature and treatment of the affection known under the name of exophthalmic goitre, exophthalmic cachexia, &c. The conclusions at which that writer has arrived are the following:—That the disease known under the various names referred to above is not essentially constituted either by exophthalmos (protrusion of the eyeball) or by a swelling of the thyroid body, but rather by an irritable condition of the heart and the arteries of the neck, with which it is, at times, closely connected; it is impossible to fix definitely, the interval which separates the production of these two series of facts, a dilatation with hypertrophy of the heart, and of the large vessels of the neck. Neither this dilatation with hypertrophy nor the increased irritability of the circulatory system, which would appear to govern it, can be considered as the base or point of origin of the malady. Preceding these phenomena, or coincident with them, there exist various derangements in the digestive system, the secretory apparatus, and the nervous system, which do not leave any doubt concerning the common tie which unites, and which generalizes them; this tie would seem to be a morbid condition of the great sympathetic system. The existence of this morbid condition of the sympathetic nerves is further shown by the production of exophthalmos which, although inexplicable on the ground of vascular dilatation, and equally inexplicable by the hypothesis of an hypertrophy of the cellulofatty tissue contained in the orbit (an hypothesis which is in itself irreconcilable with the rapid production of this phenomenon in certain cases, with its absence in others, and with its more striking manifestation in one eye than in the other), is, on the contrary, fully explained by

the influence of the sympathetic system, as demonstrated by the investigations of Claude Bernard and Muller.

The nervous affection which we have described is curable by a plan of treatment continued for a sufficient length of time, which has for its object to excite the contractibility of the walls of the heart and of the arteries, to lessen the exaggerated irritability of the heart and of the vessels of the neck, and to combat the general neuropathic condition, which serves as a base for it, at the same time as the altered condition of the blood when it exists. Amongst the therapeutic measures, those upon which we can place most reliance are the application of cold to the region of the heart, the administration of increasing doses of veratria, or of digitalis, repeated affusion with water, removal of the patient into the country, and, at a certain stage of the malady, ferruginous preparations, especially the perchloride of iron.—*London Medical Review.*

SURGERY.

A FEW SURGICAL FACTS.

By J. J. CHISHOLM, M.D.,

CASE I. A Simple Mode of insuring the proper healing of Anal Fistula, after incision; avoiding the necessity of daily Plugging the Wound, which is so troublesome to the Surgeon and so very painful to the Patient.

Mr. R.—, aged thirty, of good health and robust frame, had been for a long time annoyed by a rising on the left buttock, which frequently formed an abscess and discharged. The escape of pus continued for some days, then gradually diminished until scarcely perceptible; the part, however, remaining always more or less moist. As business necessitated much horseback riding, the irritation was kept up by this exercise. Upon examination, a probe traversed a blind fistulous passage of nearly two inches in length. The entire tract was incised and *thoroughly painted, throughout its entire extent, with perchloride of iron*, for the double purpose of controuling hemorrhage, and slightly cauterizing the surfaces, so as to prevent quick union between the lips of the wound. A mass of firmly clotted blood filled up completely the interstice. Twenty-four hours after the application suppuration had already commenced, detaching the coagula, which were before firmly adherent to the wound; granulations formed over the the entire surface, and consolidation from the bottom was rapidly effected without the patient having been detained a single day in his chamber.

The daily plugging of the wound, which is so very painful as to make the patient shun the visits of the surgeon, the doubts of retaining the plug within the wound, and the confinement necessary when this treatment is carried out, are all obviated by the much simpler, safe, and more efficient method of painting with the perchloride or persulphate of iron. The tent is a relic of a former age, which should be discarded from the treatment of this surgical lesion.

CASE II. How to control troublesome Hæmorrhage from Small Vessels without Complicating the Wound with Ligatures.

Rachel, a healthy negro, aged twenty, entered the Negro Hospital, for the removal of a keloid tumor. The growth commenced in early childhood, from the irritation of the skin around the small puncture made in boring the ear for ear-rings by means of a red-hot sewing needle, a common practice among the negroes. The tumor, as large as the fist, hangs from the lobe of the left ear by a pedicle of healthy skin about the size of the index finger. When this peduncle was divided, an active hemorrhage ensued from a number of subcutaneous vessels which had developed themselves into the nutrient

arteries of the growth. As it is always very important, after the incision of such tumor, to heal the wound with the formation of as little cicatricial tissue as possible, otherwise the return of the keloidal growth is certain, it was necessary to close the wound accurately, for healing by the first intention. Ligatures to the bleeding arteries would have interfered with the ready healing, and were therefore inadmissible. Torsion was unsuccessfully tried; active styptics were contra-indicated; and as the vessels were too large and the bleeding too free to be controlled by direct pressure in these loose tissues, the following plan was adopted to stop the hemorrhage: The arteries were seized and ligated with a thread, which after cutting through the inner coats and puckering the outer, would break, when the traction was continued, rather than cut through the outer coat. By breaking the ligatures, the ends of the arteries were sealed up, a troublesome hemorrhage at once and permanently checked, and the wound left clean for obtaining quick union. Several arteries having been secured by this means, the edges of the wound were carefully approximated and retained by silver sutures, and the entire length of raw surface united by adhesion. No dressings were applied, the moisture in the line of incision being allowed to desiccate in the air.

CASE III. *A Great Improvement in the Treatment of the Patient after Cataract Operations.*

Mr. M——, aged sixty-three, in good health, has had failing vision in the left eye for several years, which was diagnosed by his physician incipient cataract. Eighteen months since, when sight was nearly lost in the left eye, the right also began to fail. The progress of the opacity was gradual, until within a few months, when under the excitement of politics, dimness increased with great rapidity, and in a week he lost all useful vision. When he presented himself for operation, a semi-hard cataract was seen in the left eye, and one of much softer consistency in the right. He could only distinguish shadows. The left eye, although for many years impaired, was the one selected for the operation of extraction. At the end of the second day after the operation, as the patient had been free of pain, his good feelings got the better of his discretion, and he was induced to overstep the bounds of propriety by partaking of a luxurious dinner, which brought on so violent an attack of indigestion, with its severe chills and distressingly gloomy and nervous feeling, that for several hours he felt assured that he would not see another day. The day after this attack he was allowed to get up, and on the fifth day, with adhesive plaster closing his eyes, he was sent out to walk. This he continued twice a day, walking one or two miles each time. When the first week after the operation had passed, he would open his eyes at twilight whilst walking, having them protected by a blue glass. By degrees more light was admitted to the eye, until the fourteenth day after the operation, when he could walk the streets at midday, his eye being protected from the glare of sunlight by the colored glass and from the upper oblique rays by the rim of his slouched hat. On the fifteenth day, Mr. —— returned home, to a neighbouring State, with a strong eye and such improved vision, as would enable him to see the line upon which he was writing his name without using a lens. Before vision failed he was very near-sighted. Physicians are aware that no one act is so apt to derange the harmony of the animal economy, as to deprive suddenly persons in good health of their accustomed exercise. The importance of excluding for a few days strong light from an eye recently operated upon being equally recognised, a patch of dark sticking plaster, properly applied, will make a dark chamber at any time, so that the very common practice of shutting out air and light from the room in which is placed a patient recently operated upon for cataract is now no longer required. The above plan of keeping patients in absolute darkness, and yet allowing them the enjoyment of exercise in the open air, so conducive to digestion and general well-being, is one of the greatest improvements in the surgical treatment of diseases of the eyes. The adhesive plaster, which is used only when the eye would be exposed to too strong light is applied as follows: A piece one inch and a half long and one inch wide, with its upper corners rounded off, is thoroughly moistened and applied to the closed eyelids by

pressing its inferior edge firmly upon the face, over the lower orbital and molar region. The upper portion of the plaster is then allowed to fall upon the closed upper lid, when, if previously properly moistened, it will hold the lid secure by its own weight even without mild pressure.

Another point of much importance in the successful treatment of cataract patients is, after the first twenty-four or forty-eight hours, allowing time for the union of the wound, to advise the patient to keep the eyes open, at intervals in the dark room, as long as it is found comfortable, night having excluded all injurious light from the apartment. This accustoms the retina to moderate light, which when daily increased by gradually admitting more light into the chamber, will soon enable the eye, when shaded by a colored glass, to stand even some light after two or three weeks. The common practice of keeping the eye closed until eight or ten days have elapsed, when it is suddenly brought out in strong light for examination, cannot be too severely censured. The rational process of gradually introducing light from the second day of the operation will, by the tenth day enable the eye to bear for several hours sufficient light to permit a very satisfactory examination. Experience has taught every surgeon that trouble after cataract operations often dates from the moment of inspecting the injured eye, and can readily be accounted for in the sudden and extreme changes of light to which the sensitive eye is during a few minutes exposed. Up to this examination all had gone well, immediately after it all is excitement, and the patient racked with agonizing pain, is fortunate, if, after several days of torture, an eye with very indifferent vision is saved. Ample experience has proved the value of the above suggestions.—*Am. Med. Times.*

TREATMENT OF HOUSEMAID'S KNEE BY THE THREAD SETON.

(Under the care of Mr. SKEY.)

At the present time three girls, of the respective ages of fifteen, sixteen, and seventeen years, are to be seen, in one ward of the above hospital, who are the subjects of enlarged bursæ over the knee, brought on by kneeling on a hard floor or stone steps whilst following their occupation as servants. The occurrence so early in life is unusual; but there is no reason why females of all ages should not be subject to this affection if exposed to the causes which give rise to it. We recollect an instance, in University College Hospital, of a young man, under Mr. Erichsen's care, with an enlarged bursa over one of his knees, the result of his peculiar calling, which was that of a tacker down of carpets.

When Mr. Skey's patients were admitted, all the acute signs of inflammation had subsided; but the enlarged bursæ remained filled with fluid. Various plans of treatment are recommended for this affection, including, amongst others, repeated evacuation by punctures, until the bursal sac secretes no further fluid, or is obliterated by inflammation. Simple as this process is, however, fatal consequences have ensued by the society of the constitutional symptoms. Mr. Skey's practice is to pass through the tumour a thickish thread, which is allowed to remain in. This sets up inflammatory action, known by a little redness around the entrance of the thread, and the swelling either subsides altogether, or, what is more common, an abscess forms, which is opened, and the cavity becomes obliterated. In these three patients this treatment was followed out, and suppuration took place in all, with the result of cure. In one—the girl of sixteen—erysipelas was contracted in the knee, and in the foot of the same leg, from a patient in the neighbouring bed. An abscess formed in the foot, which was opened, and the erysipelas is disappearing under the use of quinine internally.

Mr. Skey applies the seton to all forms of housemaid's knee. He thinks it is perhaps better suited, however, to the hard and indurated bursæ.

There are some examples of this disease, wherein the walls of the cyst have become so thick and solid that no plan of treatment short of actual removal will prove of any

avail. We have seen Mr. Fergusson, at King's College Hospital, dissect them out, under such circumstances, with good results. And we can call to mind an instance that came under our notice some months back, at University College Hospital, under Mr. Erichsen's care, of a girl who had a bursal tumour of this character wholly removed.

In October last, Mr. Quain had a girl, aged nineteen years, under his care in the same hospital, in whose left knee was a fluctuating bursal tumour, of the size of a small orange. This was treated by a thread seton, with the result of causing evacuation of its contents, mild suppurative inflammation, and obliteration. In that instance the tumour had been present ten months, and arose from kneeling while scrubbing.—*Lancet*.

TWO CASES OF OBSTRUCTED VAGINA.

By SAMUEL L. ABBOT, M.D.

Several years since, I was called upon, by an unknown lady, somewhere between 20 and 30 years of age, who said she wished to consult me about a peculiar difficulty, and to know whether it admitted of a remedy. After some hesitation, she said she thought she must be different from other women. She had been married but a few months and her experience during that time had been one of so much suffering that she had at last made up her mind to consult a physician. She accordingly applied at the Massachusetts General Hospital, having it under consideration to enter that institution as a boarder, if it were deemed expedient.

It being evident that there must be something abnormal about the sexual system, an examination was asked and somewhat reluctantly permitted. Everything about the external organs was natural, but on introducing the finger within the vagina and passing it towards the uterus, its progress was suddenly arrested, towards the upper part by a transverse diaphragm or partition. This was extended across from one side to the other, and had nothing of the character of a contraction or an adhesion of the opposite walls. In its centre was a circular opening, so far as could be judged by the touch, which readily admitted the tip of the fore-finger, and without much difficulty that of the ring-finger also. Above this diaphragm, say from three quarters of an inch to an inch, the os uteri was felt, apparently in a normal condition, surrounded by the *cul de sac* of the vagina, of its usual dimensions. The membranous partition had a very firm, inelastic feel, and, as far as could be judged by the finger, was at least an eighth of an inch in thickness. It was very rigid. Considerable force was used by separating the tips of the fingers, to determine if it was in any degree distensible or could be lacerated. No impression was produced upon it, and the effort caused considerable pain. Here was a serious obstacle to sexual intercourse, and the patient stated that every act was attended by intense suffering, the whole of the neighbouring parts being dragged upon and forced upwards in the most painful manner. It was evident that such an obstacle would be somewhat serious, should the lady become pregnant, at the time of labor; as its very unyielding character would probably require surgical interference to remove it, and a sudden rupture might lead to an injury of the vagina; it was altogether too firm to be trusted to the laceration which an advancing head might produce.

The patient was accordingly advised to submit herself to treatment for the removal of the obstacle at once. She left, promising to consult with her husband on the subject and never returned. Perhaps her case may have fallen subsequently under the eye of some other physician, and it would be interesting to know what was the final issue of it. It should be added that the patient was not aware of having at any time sustained a local injury which could account for the existing state of things, nor was she, previous to her marriage, conscious of its existence. In fact, the character of the partition was not that of an inflammatory adhesion or the result of any mechanical injury.

CASE II.—*Imperforate Hymen at the time of Labor*.—Mrs. ———, in labor with her first child. On making the first examination, not suspecting anything abnormal, a little

embarrassment was momentarily felt in tracing the topography of the parts. The finger did not readily enter the vagina, but passed beyond it in an awkward way, suggestive of unprofessional bungling, not at all flattering to one's *amour propre*. A little care, however, on a second essay, led to the discovery of an unruptured hymen. There was a small central opening in this membrane, which admitted the tip of the fore-finger, and taking advantage of the presence of a pain, it was gradually worked through by a little pressure, without much opposition from the patient, until the uterus was reached, and the presentation made out. The patient was at once assured that there was no serious obstacle to the birth of the child, and that all things would issue well. This gave her great relief, as she said the apprehension of serious consequences had been a heavy burden on her mind for a long time, as she knew there was something wrong about her, but delicacy had prevented her speaking about it. As the hymen was not very firm, it was allowed to wait for the advancing head to come down upon it. As labor progressed, and the vagina became more and more relaxed, the orifice in the membrane was observed to be gradually dilating, until it was about an inch across, and the membrane itself had become proportionately thin. At last as the head pressed upon it, the stretched edge was felt to give way under the finger by gradual rents at different points, like a piece of wet paper, without the consciousness of the patient, and the obstacle was removed. On subsequent inquiry of the husband, it was learned that the barrier had been a sufficiently embarrassing one, preventing entirely complete coitus, but, as events proved, not enough to prevent impregnation; one of those facts, by the way, which overturn entirely the theories of those who argue that fruitful congress can only occur by the apposition of the orifice of the urethra to the os uteri at the moment of sexual orgasm, in which it is contended that the female must also of necessity participate. Such cases show conclusively that it is not necessary to suppose any *power of suction* in the uterus at that moment to introduce the spermatozoa within its cavity, and that their power of rapid movement is not altogether a superfluous endowment. The patient has had a second child since, and it was found at the time of labor that the occlusion had not been reproduced.—*Boston Med. and Surg. Journal*.

TREATMENT OF DYSMENORRHEA.

Dr. Snelson recommends, especially in the rheumatic and neuralgic varieties, two grains each, sulphate of quinine, and ferrocyanide of iron, three times a day during the intervals. The period itself he treats with opium and the warm bath.—*St. Louis Medical and Surgical Journal*.

THE
British American Journal.

MONTREAL, MAY, 1861.

THE NECESSITY FOR ANOTHER LUNATIC ASYLUM.

The sad occurrence which took place in our Jail on the 23rd of April last, suggests reflections which cannot be forced into abeyance. On that day an unfortunate lunatic, labouring under the worst species of insanity, that of the homicidal type, deliberately deprived of life another. To account for such a fact occurring in the Jail of Montreal, it is necessary to observe that the only Lunatic Asylum, in the Lower Province, is that at Beauport, and that when that Institution is overcrowded, the supernumeraries of this unfortunate class of patients can secure no other local habitation than our Jail, into which they cannot get an admission unless upon testimony, that their free agency is likely to be attended with grievous bodily injury to their neighbours; while at the time of this unfortunate occurrence, no less than twenty-nine other lunatics were confined in the building, seven of whom were in the ward in which the homicide occurred, the instrument of destruction having been the fire poker.

This has not been the first time that an occurrence of this character has taken place in this self-same Institution. About fifteen or eighteen years ago, a like occurrence happened, but scarcely through homicidal impulse. On this occasion it originated out of a feeling of curiosity to see how another lunatic would feel with his head off. Quite a number of lunatics were at this time confined in the prison, and having been turned out into the yard for the purpose of recreation and fresh air, chance brought two of them near the wood-house, where an axe was lying. The idea was suggested by one lunatic to another, who immediately submitted by laying his head upon a block of the wood. In a minute the axe, was raised and descending severed the unfortunate man's head from his body, with which the executioner was amusing himself when the bloody deed was discovered. It has been alleged that the present Jailer was blameable for permitting murderous weapons to be within the reach of these unfortunate victims of mental aberration. But we see little cause for attributing blame or neglect to that officer, whose strict attention to duty, and humanity, with kindness to those placed in his custody, are everywhere recognized. If blame

is attachable anywhere, it is to those who, having the power to amend a condition of matters which, year by year as our population increased, has been getting worse, have done nothing but temporize; who, aware that the Beauport Asylum is crowded to overflowing, are content to wait to fill up vacancies from our Jail the interim receptacle; who, in Upper Canada with a population not larger than Lower Canada, can establish three Lunatic Asylums, yet insist upon retaining in one Asylum the whole insane inhabitants of this division of the Province, to the full extent of its accommodation, the Jail of this city holding a kind of reserve supply, in which these unfortunate inmates are permitted to linger for weeks and months, with no treatment suitable to their condition, and among whom, for want of early remedial management, many cases of mental aberration have had, we much fear, their malady perpetuated.

Surely it is time that such a state of matters should cease. We have never been the apologist of private Asylums, for in no other light than that can the Beauport one ever be viewed, but at the time of its inauguration we accepted it as a boon, a decided step in advance in ameliorating the condition of this truly lamentable class of patients. It has done its duty to the extent of its ability, but it is still a very exceptional mode of treating mental diseases, and we question if a like system of management obtains in any other country under government auspices. Rumour has it that the government, roused from its apathy by the lamentable occurrence which has given origin to these observations, intends to devote the Barracks at St. Johns to the purposes of an Asylum. If so, who is to have the charge of the patients? Is it to be the happy seat into which some governmental political supporter is to be pitchforked as a recompense for service irrespective of qualification for duty, or as in the case of the Toronto Asylum, is there to appear an advertisement requesting applications from gentlemen who have made this specialty their study? What the intentions are we know not, nor have we heard, but the ominous silence preserved on this head points very much to the former method of procedure.

But what about the land purchased a quarter of a century ago, in the neighbourhood of this city, upon a commanding and eligible site, and for the express purpose of a Lunatic Asylum. Is it still to remain unoccupied for its intended purposes, or does the Government ever intend to erect an Asylum worthy of itself and of the influence and importance of the Province, in which the care and treatment of those unfortunate creatures, afflicted with the most direful visitation which can befall a human being, shall not become objects of mere barter? These are questions which deserve an answer, and no better period than the present has arrived in which they could be urged. A little time will show what steps the executive will pursue in regard to this momentous subject.

MEMORIAL TO THE LATE PROFESSOR HOLMES.

During the session just closed the students in the Faculty of Medicine of McGill College paid a graceful tribute to the memory of their lately much esteemed and ever to be remembered teacher, the late Dr. Holmes. Having at a meeting held for the purpose decided upon erecting a marble tablet comme-

morative of his death, they concluded by a determination of limiting the subscription towards the object to themselves, and a handsome sum was accordingly immediately subscribed. The tablet is shield-shaped, of white marble attached to another slab of our Montreal limestone both highly polished, the former containing the following inscription in Latin.

SACRUM
 ANDREÆ F. HOLMES, M.D. ET LL.D.,
 MEDICINÆ FACULTATIS COLLEGII MCGILL,
 DECANI
 MERITO SUO CELEBERRIMI
 HOC
 STUDENTES IN ARTE MEDICA
 VIRTUTES EJUS COLENTES
 A.D. MDCCCLX
 P.P.D.D.

As a specimen of work of this description, it has been very neatly executed, and reflects great credit upon Mr. Mavor who carried out the design. It has been placed in the Library of the Faculty in their rooms in Cote Street, and forms a conspicuous object in it. Long may it remain there, to recall to the memory of his colleagues the loss of a cherished companion, and to the students that of a sincere friend, although in his case we cannot but entertain the profound conviction that "our loss was most emphatically his most inestimable gain."

PALMER'S ELECTRO-VOLTAIC INSTRUMENT.

We were exceedingly pleased a few days ago, in having been waited on by Mr. Palmer, a gentleman from London, C. W., who called to make us acquainted with an instrument devised by himself, intended for the purpose of transmitting through any portion of the body a continuous stream of galvanism. It is exceedingly simple in its construction, and is at once put into action by merely damping the tubes, which are 42 or more in number, by diluted acetic acid, or a weak solution of salt and water.

The current thus evolved is continuous and unremitting, and when the little battery is enclosed in its card case, it will continue to generate the excitement for a considerable time without redamping. It has been known to retain its power under these circumstances for as long as four days.

Although the current possesses sufficient force to overcome the resistance of the bodies of six or more persons in contact, if properly managed, yet by applying the moist sponges which may be attached to the conductors, its intensity becomes very much mitigated, so much so as to become scarcely perceptible to the great majority of individuals, and therefore by no means unpleasant.

By placing the silver points, which accompany also the instrument, upon the skin previously dried by a little powdered rice, a slight amount of irritation is at once induced. A higher amount of irritation may be caused by previously breathing upon the skin; while by damping the part with the salt water, the

most intense pain is at once perceived, amounting in a few moments to actual vesication.

The shape of this truly valuable little instrument and its size adapt it for the waistcoat pocket, while the simple, uncomplicated, and ready mode of procuring from it an uninterrupted stream of galvanism are important considerations, and in striking contrast with the cumbrous and troublesome intermittent-current batteries now in use, and which we venture to predict it will completely supersede.

Mr. Palmer has patented his invention in this Province, and steps are being taken to secure patent rights in the United States, Great Britain, France, and Germany.

Its low price, which varies with its size from \$6 to \$8, highly recommends it to general favour among the profession; and we hope that while this invention will unquestionably tend to the relief of human suffering, it will also return an ample reward to the patentee. It has been already tried in some of our Hospitals, and in the original department of this number we have inserted a short report of a number of cases in which its employment has been highly satisfactory.

THE MEDICAL BILLS BEFORE PARLIAMENT.

We are happy to announce that the Vaccination Bill has passed the Legislative Assembly, and been forwarded to the Legislative Council, where, we have no doubt, it will meet with equal favour. But while congratulating our readers on this favour, we have to confess that it comes with an alloy. The Eclectic Medical Bill has also passed the Assembly, to its shame, and has been also sent to the Upper House, where we hope that sufficient patriotism, and appreciation of the true interests of the public, still exist, and where we do most sincerely trust it will be sent to the tomb of the Capulets. We cannot but confess to extreme surprise that the Legislative Assembly should act in this manner. Time after time has the Profession of the Upper Province sought but unavailingly, an Act of Incorporation at its hands; but no sooner does some species of humbug, whether appearing under the name of Homœopathy or Eclecticism, ask a like boon, than their request is at once acceded to. In the nineteenth century, we could hardly have imagined such a thing possible, but it is nevertheless true as holy writ. Our advice to the Assembly is, as on a perfect par to its proceeding with regard to the Eclectic Medical Bill, that it should pass an Act legalizing the practice of thimble-rigging, and impostures of all kinds. People might wonder and stare, but many sensible men would ask "wherein lies the difference." We trust that in the Legislative Council there will be found sufficient good sense to prevent such a measure from being foisted upon the people of the Province.

THE CONVOCATION AT M'GILL COLLEGE.

The proceedings of the annual convocation were this year divided, and were held on the 2nd and 3rd of May; those of the first day having been devoted to

the ceremonies connected with the Faculty of Arts, those of the second to those of the Faculties of Law and Medicine. The whole was unusually interesting, but our space compels us to restrict our remarks to the proceedings in our own Faculty.

Professor Campbell, Dean of the Faculty, announced the names of the following prizemen for the session just closed.

For best Thesis, Messrs Drake, Austin and Philip—equal.

For best Final examination, Mr. J. M. Drake, of Montreal, C. E.

For best Primary examination, Mr. Thomas C. Walton, of Toronto, C. W.

The class Prizes had been awarded as follows:—

Principal Dawson.—Zoology, Mr. W. M. Coté, of Grande Ligne, C. E.

“ “ Botany, Mr. C. Battersby, of Toronto, C. W.

Professor Wright, Materia Medica, Mr. G. S. DeBonald, of Berthier, C. E.

“ McCallum, Clinical Medicine, and Medical Jurisprudence, Mr. J.

M. Drake, and D. McGillivray.

The following gentlemen were then called forward, and having had the usual official oath administered to them by the Registrar of the Faculty of Medicine, and subscribed the same, received the degree in Medicine and Surgery of the University. We subjoin their names, places of residence, and inaugural Theses:—

John Rolph Malcolm.....	Oakland, C. W.....	Peritonitis.
Herbert H. Read.....	Minudie, N. S.....	Cyanosis.
David Leslie Philip.....	Vankleek Hill, C. W.....	Ergot of Rye.
Arthur Lyon.....	Ottawa, C. W.....	Abortion.
Jacob Edwin Brouse.....	Prescott, C. W.....	Fracture of the Forearm.
Henry Ussher.....	Bowmanville, C. W.....	Placenta Prævia.
Napoleon Leclair.....	N. Lancaster, C. W.....	Syphilitic Chancre.
Frederick D. Sutherland....	Montreal, C. E.....	Acute Rheumatism.
Peter McLaren.....	Drummond, C. W.....	Diabetes.
James Gun.....	Palermo, C. W.....	Chronic Pneumonia.
Rufus F. Hamilton.....	Clarenceville, C. E.....	Dysentery.
Donald McGillivray.....	Lochiel, C. W.....	A peculiar Heart disease.
Joseph M. Drake.....	Montreal, C. E.....	Albuminuria.
Vincent G. B. Chagnon....	St. Dominique, C. E.....	Menstruation.
Herbert Lindsay.....	Cornwall, C. W.....	Convalescence.
George W. Powers.....	Sutton, C. E.....	Opium.
Joseph Godin.....	Montreal, C. E.....	Disease of the Mitral valve.
George E. Gascoyne, Staff		
Assistant Surgeon.....	Montreal, C. E.....	Dysentery.
Horatio Nelson, M.D.,.....	Montreal, C. E.....	Stricture of the Rectum.
Duncan McGregor.....	Glengarry, C. W.....	Incipient Phthisis.
Charles Battersby.....	Toronto, C. W.....	Puerperal Hemorrhage.

Mr. Brouse then read the valedictory on the part of the candidates, after which the graduates received an able and impressive address from Professor Howard.

Dr. F. D. Sutherland, who this year passed all his examinations in a very successful manner, was unable to take his degree on account of non-age.

The following gentlemen passed their primary examination in the same faculty at the close of the session.

Thomas Cameron Walton..... Toronto, C. E.

Rufus Hamilton..... Clarenceville, C. E.

V. G. Chagnon.....	St. Dominique, C. E.
James W. Digby	Brantford, C. W.
Maurice R. Burke.....	Sarnia, C. W.
G. W. Powers.....	Sutton, C. E.
Louis Lafontaine.....	Chambly, C. E.
George. A. Chesley.....	Cornwall, C. W.
John Harkness.....	Matilda, C. W.
Donald P. Campbell.....	Glengarry, C. W.
Edward H. Trenholme.....	Montreal, C. E.
Daniel Beatty.....	Aylmer, C. E.
A. Belleau.....	Quebec, C. E.
James G. Strobridge.....	Brantford, C. W.
G. H. Labelle.....	St. Rose, C. E.
Charles H. Church.....	Aylmer, C. E.
G. S. DeBonald	Berthier, C. E.
James Ayles.....	Aylmer, C. E.
John A. Stewart.....	Charlottetown, Prince E. Island.

We have only further to remark that Messrs. C. Battersby, Herbert H. Read, and John Rolph Malcolm passed their examinations last year, but could not graduate in consequence at the time, of their being under legal age.

THE QUARANTINE AT GROSSE ISLE.

A serious error has been pointed out to us in our remarks upon this establishment in our March number. We then stated that its annual cost to the Province was £8000, whereas it should have been \$8000. This mistake could hardly have originated had the decimal currency not been now in vogue. We are happy, however, to make the *amende*, as we would be the last willingly to mistake what we consider to be facts.

TORONTO MEDICO-CHIRURGICAL SOCIETY.

The third meeting of the Toronto Medico-Chirurgical Society, was held in their rooms in *Temperance Hall*, on the 9th April.

The President took the chair.

The business matter of the Society having been completed, Dr. Wright read the particulars of a case of perforation of the stomach, and exhibited the very interesting specimen to the Society. After a lengthened discussion the meeting broke up.

MILITARY SURGERY.

We understand that Dr. Hamilton, the eminent author of the work on "Dislocations and Fractures," and Professor of Military Surgery, and diseases and accidents incident to bones in the Bellevue Medical College, is about submitting to the Profession, a new work on "Military Surgery." We have not the slightest doubt, that, from the well-known, and thoroughly appreciated capabilities of the talented author, the work will strongly recommend itself.

EDITORIAL SUMMARY.

Sudden whitening of the hair from terror.—A correspondent of the *Medical Times and Gazette* having asked for authentic instances of hair becoming grey within the space of one night, Mr. D. P. Parry, Staff-Surgeon at Aldershot, writes the following very remarkable account of a case of which he says he made memoranda shortly after the occurrence: "On February 19th, 1858, the column under General Franks, in the south of Oude, was engaged with a rebel force at the village of Chamda, and several prisoners were taken; one of them a Sepoy of the Bengal army, was brought before the authorities for examination, and I being present had an opportunity of watching from the commencement the fact I am about to record. Divested of his uniform, and stripped completely naked, he was surrounded by the soldiers, and then first apparently became alive to the dangers of his position; he trembled violently, intense horror and despair were depicted in his countenance, and although he answered the questions addressed to him, he seemed almost stupefied with fear; while actually under observation, within the space of half an hour, his hair became grey on every portion of his head, it having been when first seen by us the glossy jet black of the Bengalee, aged about twenty-four. The attention of the bystanders was first attracted by the sergeant, whose prisoner he was, exclaiming, 'He is turning grey,' and I with several other persons watched its progress. Gradually but decidedly the change went on, and a uniform greyish colour was completed within the period above named."—*Med. Chir. Review.*

Increasing Insanity in England.—This melancholy affection seems to be on the increase in the Eastern counties of England. In the six years between 1854 and 1860 the statistics of the Essex County Lunatic Asylum shew an increase of from 307 to 447 inmates. The reason of this fearful condition does not appear to be satisfactorily accounted for.

Spina Bifida successfully operated upon.—Mr. Gejon related to the Surgical Society of Paris a case of this description. He saw the patient first when four years of age, and advised delay. He was brought to him again when fourteen years old, tall and healthy. The tumour was pediculated, of the size of the fist, and presented the other usual appearances. It was proposed to remove it rather than inject it; which was done by an ecraseur. The wound was brought together by twisted sutures, and the patient made a good recovery.

The Paris Hospitals.—In the Hospitals and Infirmeries of Paris, there are at present 7877 beds devoted to the treatment of patients—viz.: 5577 for medical and 2300 for surgical patients. The beds in the hospitals are thus distributed; Medical cases 3250; Surgical cases 1706; Accouchements 677; Diseases of the skin 933; Venereal diseases 612—total 7178. During 1859 there were treated in the Hospitals, 90,996 cases and in the Hospices 5086 cases making a total of 96082 cases.

Chlorodyne.—Late numbers of the London Medical Times contain warning letters from correspondents of the injurious effects from the administration of this quack medicine, for such it is in reality. Dr. Washbourne of Gloucester, states that he witnessed unconsciousness, if not insensibility, in a working man who had taken 40 minims, lasting for several hours; he has also witnessed extreme prostration follow its use in a case of Phthisis in a lady to whom he had administered it. The sun of fashion is now setting upon this much vaunted remedy, and that of caprice taking its place.

Unwholesome meat.—The sale of meat of this character appears to be prevalent in London, and Devonshire appears to be the county whence a very large proportion is sent to the metropolis.

Representation of the Medical Profession in the Imperial Parliament.—The recent death of Dr. Nobb, one of the members for Leicester leaves the profession with only one representative in parliament. He died suddenly in Malaga in his 62nd year.

New Appointments in the Paris Hospitals.—In consequence of the retirements of MM. Ricard and Guernant and the death of Mr. Després the following changes have taken place; Mr. Girard is appointed Surgeon to the Children's Hospital; Mr. Follin, Surgeon to the Salpêtrière; Mr. Depaul, Surgeon to the Foundling Hospital; and Mr. Broca to the Bicêtre.

Physicians in the United States.—According to the "Nashville Medical Journal," the number of physicians in the United States amounts to 40,481. In Massachusetts there is one physician to every 605 inhabitants; in New York, 1 to 611; in Pennsylvania, 1 to 561; in North Carolina, 1 to 802; in Ohio, 1 to 465; in Maine, 1 to 884; and in California, 1 to 860.

Properly served.—Dr. George S. Walker, of St. Louis, was expelled lately from the St. Louis Medical Society, in consequence of having deserted his own colours and joining those of Homœopathy.

Pharmacy in Pompeii.—The excavations in this celebrated subterraneous place, have been re-commenced; and it is stated in the "Athenæum," that among the first objects discovered were some jars and utensils of a druggist's shop.

A Prolific Philosopher.—A French savant, named Tiraquea, is said to have given every year a child to his family, and a book to the public. He had thirty children, was a native of Poitou, and one of the greatest men of his time.—*Nashville Journal.*

A new mode of Punishment.—The New York State Prison authorities have adopted a new mode of inflicting punishment on the unfortunates who happen to come within their clutches. The hair is closely shaven, with the exception of a tuft on the crown, which is called in derision the "Japanese comb." The ridiculous appearance presented, makes the process a severe punishment indeed, but we question much if it tends to the reformation of the individual, which ought to be the end and object of all punishment.

Rather shaký.—Ex-mayor Tiemann, of New York, is one of the "eminent supporters" of Homœopathy in that city, and, of course, he is "used" for the purpose of giving *eclat* to the proceedings on certain occasions. In the following extract from his address before the graduates of the Homœopathic College in that city, recently, he gives evidence of equivocal friendship to that system. The growth of a goodly proportion of the supporters of homœopathy, is about as facile as that of Mr. Tiemann. Mr. Tiemann, *loquitur.*

"You go forth as healers of the people, and remember, gentlemen, your office is to cure the sick. You need not stick alone to Homœopathy; if that does not cure, try Allopathy. If Allopathy fails, try Hydropathy, and if you are not then successful, adopt spiritualism, or any other curative means that may be at hand."—*Med. and Surg. Reporter.*

Eclecticism.—This humbug seems to be on the wane in Cincinnati, its head-quarters, and where its professors (!) have established a college. According to the "Lancet and Observer," The Eclectic Medical Institute of that city, which a few years ago claimed a class of between 200 and 300, had only 55 matriculants last session.

Baths.—A Roman or hot air bath has been established in London. The rage was previously upon the Turkish Bath.

White Gunpowder.—The London correspondent of the "Leeds Mercury" says, "I have heard in this city of a curious invention, which concerns alike sportsmen, riflemen, and the scientific. It is the manufacture of white gunpowder. It is composed of yellow Prussiate of Potassa, Chlorid of Potassium, loaf sugar, crystallized sugar, and brimstone. It possesses superior qualities over the black powder, being quicker and more powerful in its action, and not fouling the gun; for the delicate in-olfactory nerve, it may be added, that it is without unpleasant-smell. It has just been patented."

Truce in the end.—Homœopaths make this boast—that allopaths dispense medicine; and they dispense with it. This may be partially true, owing to their losing their patients so very quickly.—*Punch.*

Female Medical Education.—The late Hon. John Wade, of Woburn, bequeathed over \$20,000 in value to the Female Medical College in Boston. The sum has been applied to the endowment of a chair to be called "the Wade Professorship," and for the aid of students, under the name of the "Wade Scholarship Fund."

Longevity of a Horse.—A horse belonging to Dr. Lotz, of New Berlin (Pa.) died last week. Had he lived to September next, he would have attained the unusual age for that animal, of 40 years,—about twice the average duration of a horse's age. He was doing good service until within the last year.

Homœopathic College.—The Hahnemann Medical College of Chicago, has closed for want of support. The concern matriculated their students on credit. Hahnemann taught, the smaller the dose, the better the result, a treatment singularly verified in this instance.—*Southern Med. and Surg. Journal.*

The Duchess of Kent.—The decease of this amiable lady, the mother of the Queen, is well known, but the disease which carried her off is not so. It appears to have been schirrus of the mamma, which slowly but steadily performed its fatal mission. We do not believe that an operation was ever performed.

LICENTIATES OF THE MEDICAL BOARD OF UPPER CANADA.

(Continued from page 142.)

Heeman W. Spaffard, M.D.	August 25,	1855
Robert Douglas, M.D.	September 15,	1855
John Bentley, M.D.	September 15,	1855
Allan Cameron, M.D.	September 22,	1855
Denis Wolverton Campbell, M.D.	November 17,	1855
James Collinge, M.R.C.S.E.	November 17,	1855
Richard Moore.	January 5,	1856
David Earl Burdett, M.B.	January 26,	1856
William Hillier, M.D.	January 26,	1856
Eliphalet Wilber Gurtin, M.D.	February 23,	1856
James Stinson, M.D.	April 5,	1856
Samuel Austin Harvey.	April 12,	1856
Jacob Smith.	April 12,	1856
Andreas Koetsh.	April 12,	1856
Robert James Johnston, M.B.	April 19,	1856
William Woodruff, M.D.	May 3,	1856
Edwin Goodwin, M.B.	May 3,	1856
Andrew James Park, M.D.	May 10,	1856
Samuel Dunbar, M.D.	May 10,	1856
Marshall J. Brown, M.D.	May 10,	1856
Gilbert Elliott, M.D.	June 7,	1856
Jacob Walrak, M.D.	June 7,	1856
William Bettridge, M.A., M.B.	June 14,	1856
Benjamin Franklin, M.D.	June 14,	1856
Nelson Garvin, M.D.	June 14,	1856
Peter Newkirk, M.D.	June 21,	1856
Ralph Leeming Ball, M.B.	June 21,	1856
Peter Van Buren Dorland, M.D.	June 28,	1856
William Albert Castleman, A.M., M.D.	July 5,	1856
John Thomas McKenzie, M.B.	July 5,	1856
Robert Fowler.	July 5,	1856
Thomas John York, M.A.	July 5,	1856
Alfred S. Burns, M.D.	July 12,	1856
Beverly Robinson Morris, M.B.	July 19,	1856
Caleb Elsworth Martin, M.D.	July 19,	1856
John Munro.	July 19,	1856
John Hutchinson Garner, M.D.	September 13,	1856

Robert Checkley, M.D.....	October 11,	1866
Thomas Wetherhead, M.D.....	October 11,	1856
William Shillinglaw Hewat, M.D.....	October 11,	1856
Henry Bogue.....	October 18,	1856
Robert Byrns.....	October 18,	1856
Henry Theodore Legler, M.D.....	October 18,	1856
John Lennon.....	October 18,	1856
Henry Manley, M.R.C.S.E.....	October 25,	1856
Henry Edwards, M.D.....	November 1,	1856
Charles Thompson Noble, M.D.....	November 1,	1856
Thomas A. A. Kirkwood, M.R.C.S.E.....	November 8,	1856
Walter Thorp, M.D.....	November 8,	1856
George Washington Bingham, M.D.....	November 22,	1856
John Foote Coad, M.R.C.S.L.....	November 29,	1856
John Lizars Lizars, M.R.C.S.E.....	January 3,	1857
Benjamin Henry Stammers, M.D., E.....	January 10,	1857
Byron Franklin, M.D.....	January 17,	1857
Easton Hawkesworth, M.D.....	February 7,	1857
John George Grey, M.D.....	February 14,	1857
Henry Collins Merryweather, M.R.C.S.E.....	March 14,	1857
Charles Justin.....	March 27,	1857
Archibald Smeson, M.D.....	March 27,	1857
Stephen Dennis Crawford, M.R.C.S.E.....	April 4,	1857
Walter Lambert, M.B.....	April 4,	1857
Nathaniel Osborne Walker, M.B., M.A., M.R.S.C.E.....	April 11,	1857
Robert Hallary.....	April 11,	1857
Frederick William Wright.....	April 18,	1857
Michael Lawlor, M.D.....	May 9,	1857
Alexander R. Laidlaw, M.D.....	May 9,	1857
Joseph Crawford, M.D.....	May 16,	1857
Oliver J. Thibodo, M.D.....	May 30,	1857
Ninian Woods, M.D.....	May 30,	1857
Robert Emery, M.D.....	June 6,	1857
William C. Donnelly, M.D.....	June 6,	1857
William H. Drake, M.D.....	June 6,	1857
Reuben Chapman Curry, M.D.....	June 6,	1857
Walter Gowens, M.D.....	June 6,	1857
John B. Selley, M.D.*.....	June 13,	1857
John Noble Agnew, M.D.....	July 25,	1857
John Reeve, M.D.....	July 25,	1857
Sylvanus Joy, M.D.....	July 25,	1857
David Cameron McIntyre, M.D.....	July 25,	1857
Harvey John Philpot, M.R.C.S.E.....	August 1,	1857
Michael William Turner, M.R.C.S.E.....	August 29,	1857
James T. McCarthy.....	September 26,	1857
Arthur Ardagh.....	September 26,	1857
Henry Orton.....	October 10,	1857
Henry Augustus Betts, M.R.C.S.L.....	October 17,	1857
Archibald Alexander Riddle.....	October 17,	1857
Henry Bental Evans, M.R.C.S.L.....	October 24,	1857
Henry Hall, M.B.....	October 24,	1857
Richard King, Surgeon R. N.....	November 14,	1857
Byron Ghent, M.D.....	November 14,	1857
James Dickson, M.D.....	November 14,	1857
Alexander R. McDonald, M.D.....	November 14,	1857
James Maxwell Bell, M.D.....	November 14,	1857
Johnstone Vicars.....	November 21,	1857
James Douglas.....	November 21,	1857
William Smith, M.R.C.S.E.....	December 19,	1857
Charles R. Potts.....	January 9,	1858
William Henry Bayley, M.D.....	January 9,	1858
Samuel Sowers Bowers, M.D.....	January 9,	1858
John McCauley Hamilton; Surgeon R. N.....	January 30,	1858

* His Excellency the Governor General has been pleased to grant a license to the Reverend John B. Selley, of Compton, in the County of Sherbrooke, Wesleyan Minister, Doctor of Medicine, to practise physic, surgery, and midwifery, in Upper Canada.

Thomas Horner, M.D., M.R.C.S.E.....	February 6,	1858
Thomas Wright, M.R.C.S.E.....	February 6,	1858
John Turner Mullin, M.D.....	April 3,	1858
Thomas McCausland.....	April 10,	1858
Alexander T. Augusta.....	April 10,	1858
Isaac Wesly Brown.....	April 10,	1858
Harvey Fowler Chesholm, M.D.....	April 10,	1858
Julien Perrault, M.D.....	April 10,	1858
Edwin Price, M.D.....	April 17,	1858
Alexander Bethune, M.D.....	May 8,	1858
Charles Duncombe Tufford, M.D.....	May 8,	1858
John Sweetland, M.D.....	May 8,	1858
Michael Sullivan, M.D.....	May 29,	1858
Joseph Haskite, M.D.....	May 29,	1858
Timothy Farr English, M.D.....	May 29,	1858
William Scholfield, M.D.....	June 12,	1858
Peregrine Maitland Mann, M.D.....	June 12,	1858
Charles Arthur Bowen, M.D.....	June 12,	1858
John H. Wilson, M.D.....	June 12,	1858
James McKay, M.D.....	June 19,	1858
Edward Twining.....	June 19,	1858
Alfred Ernest Ecroyd.....	June 26,	1858
James Bailey Rounds, M.D.....	July 17,	1858
David Caw.....	July 17,	1858
Lucius Sterne Oille, M.A., M.B.....	July 17,	1858
Thurlow Cunynghame, M.D.....	July 17,	1858
Donald Henderson, M.D.....	July 17,	1858
Moses Henry Aikeas, M.B.....	July 17,	1858
Samuel Wallace, M.R.C.S.E.....	July 31,	1858
Thomas Miller, M.B.....	July 31,	1858
John Washington Agnew.....	July 31,	1858
François E. Roy, M.D.....	July 31,	1858
Henry C. Fleak, M.D.....	July 31,	1858
John De Evelyn, M.D.....	August 14,	1858
John R. Flock, M.D.....	October 2,	1858
William W. Elmer, M.D.....	October 9,	1858
Hiram Noble, M.D.....	October 23,	1858
Henry Evans, M.D.....	October 23,	1858
William Mostyn, M.D.....	November 13,	1858
Niven Agnew, M.D.....	November 20,	1858
George A. Carson, M.D.....	November 27,	1858
Robert H. Davis, M.D.....	December 11,	1858
Reuben F. Hickey, M.D.....	December 11,	1858
William Case Corson, M.D.....	January 8,	1859
William Francis Monagan, M.D.....	January 15,	1859
James P. Lynn, M.D.....	January 15,	1859
George Carrol Shannon, M.D.....	March 5,	1859
William Freeman, M.R.C.S.E.....	April 9,	1859
Alexander Hamilton, M.D.....	April 9,	1859
James J. Hillary.....	April 9,	1859
William Henderson, M.D.....	April 30,	1859
William Pipe, M.D.....	May 7,	1859
William R. Cluness, M.D.....	May 7,	1859
George B. Sparham, M.D.....	May 14,	1859
George Campbell, M.D.....	May 21,	1859
James G. O'Dea, M.D.....	May 21,	1859
William Anderson, M.D.....	May 21,	1859
George Smith, M.D.....	May 21,	1859
Augustus A. Yeomans, M.D.....	May 28,	1859
James Nelson-McCrea, M.D.....	May 28,	1859
James Johnson, M.D.....	May 28,	1859
Caird Ryerson MacLean, M.D.....	June 4,	1859
Robert J. Foster, M.D.....	June 4,	1859
Andrew William Hamilton, M.D.....	June 11,	1859
Peter Davidson, M.D.....	June 11,	1859
Solomon Secord, M.D.....	June 11,	1859
Joseph G. Lancaster, M.D.....	June 18,	1859

Alexander T. Bull, M.D.....	June 18,	1859
William A. Greenleaf, M.D.....	June 18,	1859
John Hall, M.D.....	June 18,	1859
John W. Corson, M.D.....	July 16,	1859
Irvine Dorland Bogart, M.D.....	July 16,	1859
Charles E. Barnhart, M.D.....	July 16,	1859
Henry W. Day, M.D.....	July 16,	1859
Thomas G. Phillips, M.B.....	July 16,	1859
Robert W. W. Carroll, M.D.....	July 23,	1859
James McIntosh, M.D.....	July 23,	1859
Samuel Arthur Carter, M.D.....	July 23,	1859
William Walden, M.D.....	July 23,	1859
James Byres Laing, M.D.....	July 23,	1859

To be continued

BIRTHS, MARRIAGES, AND DEATHS.

BIRTHS.

In the Parish of Sault au Recollet, on the 27th April last, the wife of Joseph Charles Poitvin, M.D., of a daughter.

MARRIAGES.

On the 3rd April, at the residence of the bride's father, Plympton, by the Rev. W. B. Evans, Rector of the Parish, Arthur Courthope Poussette, M.D., of Moore, C. W., to Alicia, second daughter of George Hyde, Esq., R. N., of Plympton, C. W.

At St. Ours, on 17th April, by the Rev. Mr. Belanger, Rector of the Parish of Belœil, J. M. Turcotte, M.D., of the parish of Belœil, to Josephina Marie Louise, daughter of the late Pierre Dorion, Esq., merchant of Quebec, and niece of J. Dorion, M.D., of St. Ours.

In Galt, on the 11th April, at the residence of the bride's father, by the Rev. Mr. McRuar, of Ayr, Y. Cowen, M.D., of Exeter, C. W., to Catherine A., daughter of M. C. Lutz, Esq., of Galt.

DEATHS.

At his residence, East Oxford, on 21st April, Dr. Thomas Scott, aged 69 years.

The deceased was one of the oldest settlers in this section of country; was generally known and universally respected; and the multitude who attended his funeral ceremony testified how large a circle of relatives and friends remains to speak of his worth and cherish his memory.

At Waterloo, C. E., on the 8th April, J. C. Butler, M. D., aged 40 years.

At Sault au Recollet, on the 8th May, Marie E. E. Ada, infant daughter of J. C. Poitvin, M.D., aged two years and four months.

At Ancaster, County Wentworth, on the 26th ult., John Shaver, Esq., aged 62 years. The deceased was father of Dr. Shaver of Shefford, C. W., and was much respected by a large circle of friends.

BOOKS, &c., RECEIVED.

ANNALS OF THE BOTANICAL SOCIETY OF CANADA, vol. I, part 1, Kingston, 1861.

THE TRANSACTIONS OF THE AMERICAN MEDICAL ASSOCIATION, instituted 1847, vol. XIII. Philadelphia: printed for the Association, Collins, 1860. 8vo. pp. 930.

ON DIABETES AND ITS SUCCESSFUL TREATMENT, by John M. Camplin, M.D., F.L.S., from the second London edition. New York: S. S. & W. Wood, 1861. 12mo., pp. 87. price \$0.60.

FISKE FUND PRIZE ESSAY.—Diphtheria, its nature and treatment, with an account of its prevalence in various countries, by Daniel Denison Slade, M.D. Philadelphia: Blanchard & Lea, 1861. 8vo., pp. 85. price \$0.75.

THE ILLUSTRATED HORSE DOCTOR, &c., by Edward Mayhew, M.R.C.V.S. New York: D. Appleton & Co., 1861. 8vo., pp. 536. price \$2.50.

A TREATISE ON FEVER, by Robert D. Lyons, R.C.C., M.B., T.C.D., &c. Philadelphia: Blanchard & Lea, 1861. 8vo., pp. 362.

ANNALS OF THE BOTANICAL SOCIETY OF CANADA, vol. I, part from 7th December, 1860, to 8th March, 1861.

ABSTRACT OF METEOROLOGICAL OBSERVATIONS AT MONTREAL IN APRIL, 1861.

By Archibald Hall, M.D.

Day.	DAILY MEANS OF THE										THERMOMETER.		WIND.		RAIN AND SNOW.			GENERAL OBSERVATIONS.
	Barometer corrected to 32° at 10 P.M.	Temperature of the Air.	Dew Point.	Relative Humidity.	Ozone.	CLOUDS.		Maximum read at 9 P.M.	Minimum read at 7 A.M.	Its general Direction and Force from 0 to 10 Volent to Hurricane.	Rain in 24 hrs read at 10 A.M.	Snow in 24 hrs read at 10 A.M.	Total rain and melted snow					
						Amount.	General description.							Inch.	Inch.	Inch.		
1	30.413	25.7	18.5	0.75	7.0	6.6	Cir. St.	31.3	12.6	N.N.E.	0.10			Fine Solar Halo A.M.				
2	30.246	23.9	23.0	0.91	7.0	10.0	Nimb.	39.9	20.8	N.E.	3.6							
3	30.330	27.1	27.1	0.75	7.0	6.3	Nimb.	40.7	26.0	N.N.E.	1.3	4.00	0.41					
4	30.312	26.4	24.3	0.61	4.5	6.0	Strat.	46.3	20.0	W.	1.0	3.00	0.29	Aurora with stream's.				
5	30.264	40.1	27.9	0.62	3.5	6.0		46.4	31.8	N.E.	1.6							
6	30.315	35.6	26.7	0.32	3.0	6.0		46.8	23.9	N.	1.6			Faint Auro. light at 11 P.M.				
7	30.299	35.5	23.3	0.57	3.2	6.0		43.2	20.9	N.N.E.	3.0			[with vehicles to St. Lam. Au. with str. Last crossing Ft. Au. lt. Bicolor (swallow) Pt. So. Halo A.M. (Hirundo) Pt. So. Halo A.M. (Hirundo).				
8	30.186	35.6	20.0	0.59	2.0	6.0		40.2	20.9	N.	2.3			Paint Auro. light. A man crossed on foot to St. Lam. Flood 7 P.M. begin. St. Ann Auro. with streamer's flood. Solar Halo.				
9	30.109	26.1	26.0	0.58	2.0	8.0	Cir.	47.3	25.0	N.	3.0							
10	30.054	45.2	31.3	0.55	2.5	0.0		56.3	34.0	N.	1.0							
11	30.078	42.2	27.1	0.79	2.5	0.0		49.5	38.0	N.	2.0							
12	30.042	44.2	37.4	0.95	7.6	6.0	Cu. St.	56.2	28.4	S.S.E.	1.6							
13	29.620	42.8	46.8	0.90	6.5	10.0	Nimb.	56.8	43.9	S.S.E.	1.6	0.58	0.58	Sub. at its ht. at 10 A.M. Flood 7 P.M. begin. St. Ann Auro. with streamer's flood. Solar Halo.				
14	29.524	44.4	41.4	0.90	10.0	10.0	Cu. St.	53.0	44.0	W.S.W.	3.6	0.33						
15	29.915	36.6	28.6	0.78	5.0	5.3	Cu. St.	44.2	34.0	W.	2.6							
16	29.932	36.2	28.9	0.78	7.5	8.0	Cu. St.	41.6	27.4	N.N.E.	4.3							
17	29.339	31.6	23.9	0.90	7.5	8.6	Nimb.	39.0	27.2	N.N.E.	5.0	7.50	0.86	Flood subsided A.M.				
18	29.458	38.3	32.3	0.81	6.6	3.6	Cir. St.	45.0	25.7	W.	2.6	2.50	0.30					
19	29.683	38.5	29.7	0.97	6.0	6.0	Cir. St.	46.3	29.0	S.W.	1.3							
20	29.762	41.9	35.6	0.79	6.5	7.0	Cu. St.	46.7	29.0	S.W.	1.0							
21	29.914	46.3	36.7	0.70	5.0	4.3	Cu. St.	54.8	36.9	W.N.W.	1.6			Lunar Halo. Distant lightning in evening Swallows reappeared.				
22	29.849	43.9	39.6	0.87	9.0	10.0	Nimb.	51.3	38.5	N.E.	1.0	Inap.	Inap.					
23	29.811	44.6	44.1	0.83	8.0	10.0	Cu. St.	63.3	40.7	W.	1.0	0.42	0.42					
24	29.638	44.2	39.9	0.87	8.5	10.0	Cu. St.	51.8	39.5	N.W.	2.0	0.09	0.09					
25	29.733	47.7	43.3	0.87	8.5	10.0	Cu. St.	54.2	41.5	W.N.W.	2.6	0.29	0.29					
26	29.977	49.7	41.0	0.73	6.5	2.3	Cu. St.	58.4	38.9	W.	2.0			First steamer to Quebec. First arrival from sea.				
27	29.783	45.9	39.6	0.80	7.5	10.0	Cu. St.	53.7	37.8	N.	4.3							
28	29.501	46.9	43.5	0.90	9.0	10.0	Nimb.	61.9	41.7	S.E.	1.3							
29	29.753	50.4	40.1	0.70	6.0	2.3	Cir. St.	58.9	42.2	W.S.W.	1.3	0.86	0.86					
30	29.695	45.8	44.2	0.94	9.0	10.0	Nimb.	52.3	42.4	N.	1.6							
31																		
S's											2.57	17.00	4.43					
M's	29.826	41.02	33.29	.756				49.56	32.26									

ABSTRACT OF METEOROLOGICAL OBSERVATIONS AT TORONTO IN APRIL, 1861.

Compiled from the Records of the Magnetic Observatory.

Day.	DAILY MEANS OF THE						THERMOMETER.		WIND.		RAIN AND SNOW.			GENERAL REMARKS.
	Barometer reduced to 32° Fah.	Temperature of the Air.	Relative Humidity.	Amount of Cloudiness.	Max m. read at 6 A.M. of next day.	Min m. read at 2 P.M. of same day.	Dew Point at 3 P.M.	General Direction.	Mean Velocity in Miles per hour.	Rain.	Snow.	Total rain and melted Snow.	Ozone in 24 hours ending 6 A.M. of next day.	
1	29.6112	32.28	89	10	33.6	28.3	30.5	S. 89 E	16.38	Inap.	Inch. 6.0	Inch. 0.600	0.10	Very severe storm.
2	29.7568	32.85	81	7	36.4	27.0	28.0	N. 63 W	3.75					
3	29.8483	32.05	81	5	39.0	23.8	32.0	N. 70 E	2.24					
4	30.0412	34.28	79	2	38.8	29.1	31.5	N. 84 E	2.24					Faint Auroral light.
5	29.9473	37.80	56	5	45.0	28.9	24.5	N. 57 E	3.22					
6	29.8843	41.47	58	4	46.8	34.8	27.0	N. 80 E	12.35					Well defined Solar Halo.
7	Sunday				43.5	36.0		N. 83 E	13.20					
8	6688	40.30	75	7	45.0	34.8	37.0	N. 85 E	16.06	.015		0.015		Well defined Auroral light. Faint Aurora.
9	6403	43.67	66	5	50.2	36.4	25.0	N. 79 E	14.70	.015		.015		
10	7857	44.13	53	0	53.8	36.8	23.0	N. 67 E	4.27					
11	6327	47.88	59	2	56.8	35.2	37.5	N. 87 E	7.78		.072			
12	4363	47.83	87	10	58.0	41.0	45.0	S.S.E. 78 E	4.60	.515		.515		
13	2155	48.62	88	8	60.8	42.5	46.0	S.S.E. 77 W	5.78	Inap.		Inap.		
14	Sunday				43.5	41.0		N. 76 W	13.79					Faint Auroral light.
15	6308	35.95	80	10	39.0	34.2	29.5	N. 42 E	2.88		Inap.	Inap.		
16	4918	38.50	62	10	43.9	32.0	28.0	N. 32 E	13.57					
17	2602	36.03	60	8	44.5	32.2	19.5	N. 38 W	16.76					
18	2183	32.45	86	10	35.2	27.6	25.0	N. 21 E	5.40		0.7	.070		Solar Halo.
19	5052	36.27	74	2	48.0	29.6	32.5	N. 34 W	12.33					
20	5865	41.30	72	5	50.0	27.0	37.0	S. 52 W	7.40					
21	Sunday				55.2	33.8		E.	8.65	.025		.025		
22	3592	54.77	70	8	67.0	41.8	46.5	S. 79 W	8.63	.005		.005		Thunder storm 7 P.M.
23	4898	49.02	87	9	51.8	47.2	45.0	N. 68 E	4.32	.037		.037		Thunder storm during day.
24	3282	50.02	71	6	62.3	41.8	40.0	N. 63 W	13.10	.005		.005		Very dense fog 6 A.M. Fragment of rainbow at 5 30 P.M.
25	5792	43.98	61	4	52.2	40.0	34.0	N. 69 W	10.89					
26	6437	43.27	69	5	49.4	32.0	34.0	N. 89 E	9.50					
27	2170	48.67	82	9	58.3	40.2	48.5	N. 82 E	9.21	.615		.615		
28	Sunday				59.2	43.2		N. 52 W	11.62					
29	4182	51.63	70	6	66.2	37.4	44.0	N. 40 W	5.56					
30	4338	48.12	70	9	58.0	45.0	40.5	N. 39 W	8.07	.315		.315		Thunder storm at 1 20 P.M.
31														
S's									1.619	6.7	2.280			
M's	29.5640	42.02	73	6	49.71	35.35	34.21	N. 40 E.	8.90					