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CANADA
MEDICAL & SURGICAL JOURNAL

JANUARY, 1886.

Original Communications.

INNERVATION OF THE HEART OF THE SLIDER
TERRAPIN (*PSEUDEMYS RUGOSA*).

(Continued.)

By T. WESLEY MULLS, M.A., M.D., L.R.C.P., ENG.
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One of the greatest results of the new heart physiology has been the fresh light thrown on the functions of the vagus nerve. Formerly the vagus was regarded as the motor nerve of the heart, and as acting chiefly as a controller or inhibitor. This view must, in the light of the most recent investigations, now be modified. Before discussing the mode of action of the pneumogastric, a few well-established facts may be stated.

Both Gaskell and Heidenhain have shown that primary acceleration of the rhythm of the heart is a frequent result of stimulation of the vagus in the *frog*. The former observer states that he has in no case seen this effect in the *land tortoise*. Though I have myself often looked for it in the *slider terrapin*, and tried by varying the strength of the stimulating current to produce it, I have seen it in but one case; in that case, however, the acceleration was very marked.

Here, then, is at once new light; the vagus may not as a first effect slow but accelerate the heart-beat. One of the best marked results of vagus stimulation noted among a large number of cold-blooded animals now examined by myself and others is *after-acceleration* of the cardiac rhythm. So far as my own prolonged

investigations of this subject in the terrapin go, the following statements may be made; and as this subject seems to me of the utmost importance to medicine, I shall give the results very much in the words of my original paper:—

1. “*The action of the heart being slow, the acceleration is very marked; if rapid, it may be slight or wholly wanting. It follows the same laws in this respect, in fact, as the accelerating sympathetic—i.e., the degree of acceleration is inversely as the rhythm at the moment of stimulation.*”

2. “*The after acceleration always lasts a considerable time, and in some cases a very long period.*”

3. “*The heart being feeble, and its nutrition suffering, vagus stimulation then produces its most marked effects on both rate and force of beat, but especially on the latter.*”

4. “*Stimulation of the vagus removes peculiarities of rhythmic sequence.*”

5. “*Stimulation of the vagus gives rise to increased diastolic relaxation.*” This refers to the effect during actual stimulation; it is never a genuine after-effect, though it may for a few seconds outlast the stimulation.

As a primary effect of stimulation, must be noted also: (a) Weakening of the cardiac pulsations without alteration of the rate of beat; (b) A similar weakening or slowing, or both, prior to actual stand-still.

Eichorst and Zander had noted degenerative changes in the heart after section of both vagi. Traube had also pointed to isolated facts of similar import, and with a fine insight read their meaning in the dim light of his day.

Gaskell and Heidenhain, whose work was published about the same time, had, though with different explanations, pronounced the vagus the *trophic* nerve of heart.

Ransom has furnished unmistakeable evidence for the truth of such a view as applied to the cephalopod mollusk, *Octopus*.

In my own experiments on the chelonians, the heart has been studied in all conditions of nutrition—most of the cases being kept under observation for two and often for three days; these observations have also been extended to the fish and the alli-

gator. Such study has enabled me to formulate the laws of vagus action with a completeness not previously possible, and especially that important law of *inverse proportion*, as I have called it, viz., *that the after-effect of vagus stimulation is inversely proportionate to the rate and force of the beat at the time of stimulation.* It follows that the worse the condition of the heart, and the more it needs assistance, the greater the capacity of the nervous system to render that help. This fact, which was never clearly brought out prior to my own investigations, has led me to assert, in the previous part of this paper, that I believed that our present explanations of the causes of heart diseases are too mechanical; and that the above facts—for facts they are and not theories—will, in the future, modify both our cardiac pathology and therapeutics.

The question as to *how* the vagus acts is very difficult, and one that cannot be fully answered until still more numerous observations have been accumulated.

Gaskell's views as to the mode of action of the ganglia in the heart-substance of the frog and land tortoise have been quoted in the first instalment of this paper; but since Gaskell wrote, certain facts have come to light which must render a modification of his views necessary.

Most remarkable was Ransom's discovery after very careful microscopic examination, that in the heart-substance of the highest class of mollusks there were *no* ganglion cells, while at the same time the vagus ("visceral") nerves had in the most remarkable manner a beneficial influence on heart work and heart nutrition. It seems to me it is difficult to over-estimate the value at the present time of such work as is now being done in this realm of comparative physiology. It is now clearly shown that ganglia are not, in all animals, essential to heart action or heart nutrition. We are led to enquire: Are they essential in the higher animals—are they so in mammals? The work for the mammalian heart is still to be done in great part; but in Ludwig's laboratory, Tigerstedt has, by one investigation, rendered it very doubtful that the movements of the heart are, even in mammals, absolutely dependent for their origin on nervous structures at all.

Does the vagus nerve act directly on the heart muscle, or mediately through its nervous ganglia? Certainly Ransom has answered this question in favor of the former view, so far as the mollusks are concerned. How is it as to the frog, the chelonians, the fish, etc. Although I hold the view subject to correction by further observations, it seems to me that the evidence that the vagus in the animals specially examined by me (the chelonians, the alligator, and the fish) acts, or at least may act, *directly* on the heart muscle itself to produce those effects characteristic of the nerve. The evidence on which this opinion is based will be clearer after the consideration of my publication on the heart of the fish especially, some account of which will probably appear in this JOURNAL.

Another question much debated for the past fifteen years is: Does the vagus contain two sets of fibres with antagonistic influence—the one *depressors* of cardiac action and the other *augmentors*; or do the same fibres act at one time as augmentors and under different circumstances as depressors? This question, so far as the frog is concerned, has been settled in favor of the former view by Gaskell, though I have shown that this investigator is in error in supposing that the vagus nerve is a pure depressor in the *crocodilia*. Whether the vagus may not be such in certain animals requires further investigation; but it seems to be tolerably safe to assert that in all animals above fishes the vagus contains both depressor and augmentor fibres. At the same time, this has not been positively demonstrated for all; and among the other lessons taught us by these recent cardiac investigations is the danger of too wide generalization, and the desirability of subjecting as many animals as possible, even of closely allied structure, to examination.

It has been shown that similarity of anatomical structure is, in a general way, associated with similarity of function; but this is not invariably the case, and we have learned of not a few instances of “physiological isolation.” To some of these I shall have to refer in later papers.

Prior to my own investigations on the chelonians, and those of McWilliam and myself on the fish, carried on at the same time, though independently, very little was known of *reflex*

cardiac inhibition among cold-blooded animals, except what was brought out by the researches of Goltz on the frog.

The case for the Slider Terrapin was tested in twelve specimens. The following forms of stimulation were employed:—

1. Injury due to removal of plastron, etc.
2. Electric stimulation of the brachial plexus and sciatic nerve with the rapidly interrupted current.
3. The same sort of stimulation applied to the main sympathetic stem in the upper thoracic region.
4. The same applied to the viscera.
5. Sponging over the peritoneum and muscles.
6. A stream of cold water over the peritoneum.
7. Goltz's "Klopf-Versuch" (tap) over peritoneum, especially in the region of the bladder.
8. A pushing-down force with the end of the wooden handle of a seeker, in the same region as that noted in 7.

Without giving details in each case, the results may be thus stated: A stream of cold water allowed to flow over the lower part of the peritoneum, and injury from operative procedure have almost always been followed by more or less cardiac inhibition, frequently lasting for many minutes (often complete stand-still of the heart for a shorter period). The relatively greater effect of such forms of stimulation, as sponging over the peritoneum, as compared with electric stimulation, even with such stimulation of the great nerves, is very striking.

Stimulation of the main sympathetic, in the thoracic region, has produced more decided effects than corresponding stimulation of the brachial plexus, etc. In some cases the latter had not the slightest effect. Electric stimulation of the viscera has generally produced little effect.

When trying the "Klopf-Versuch" (abdominal tap), I was forcibly reminded of what Prof. Goltz had told me when explaining his own method of performing this experiment on the frog, that there is the greatest difference in individual frogs of the same species as to susceptibility to reflex inhibition. That this applies to all the chelonians, my experiments abundantly show. To get the above results, the cardio-inhibitory centre in the medulla and the vagi must, of course, be intact. The afferent nerves are numerous, doubtless.

There are a number of other points connected with the pneu-

mogastric nerves, the depressor nerve of the heart, the sympathetic nerves, and especially with the great question of independent rhythmic capacity of the different parts of the heart, which must be deferred for comparison, in a later communication, with results obtained by the investigation of the heart of the sea-turtle and other chelonians.

ON CEREBRAL SYPHILIS.

By GEORGE ROSS, A.M., M.D.,

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(Read before the Medico-Chirurgical Society of Montreal.)

Some cases having recently come under my care illustrating different phases of this disorder, I venture to bring them before this Society, with a few remarks which they have suggested.

The older writers used to ascribe a great variety of disorders of the nervous system to constitutional syphilis: vertigo, epilepsy, apoplexy, amaurosis, etc. They had, of course, no scientific foundation for so doing, but really made a kind of scapegoat of this protean malady in order to explain what was otherwise obscure. Later on, came those who declared that syphilis never attacks the brain or other nervous centres. The investigations of our modern pathologists have, of course, settled this matter, showing that these important organs may, and often do, become the seat of syphilitic disorders. They have also shown in what various ways the different structures entering into the composition of these organs may be subjected to pathological changes, the direct result of syphilitic contamination. They have shown that symptoms of present disorder may be induced by local inflammation of a specific nature, by the invasion of a neoplasm or special new growth, by softening due to the obstruction of diseased vessels, by the interference of a tertiary swelling of the periosteum, or as a result of constitutional disease of the bones themselves. It has been thought, too, that symptoms of cerebral syphilis may be observed whilst the autopsy shows no special changes in the brain. In some such cases, however, careful and experienced observers have shown that histological changes of a sufficiently important character have been slowly developed as a

result of the general poison. As these various facts have been substantiated, more and more of the cases of disease of the nervous centres became traceable to a previous infection of the system with syphilis. On most of these points there is a universal consensus of opinion, and in the writings of many eminent neurologists in England, Germany and elsewhere we find abundant teaching upon the main features of syphilis of the cerebro-spinal axis. The great variety in the grouping of symptoms—the strikingly different disease-pictures which may be presented—the diagnostic difficulties often met with—the great practical importance of the cases—have all combined to render the field of brain-syphilis a peculiarly attractive one to clinicians and pathologists. Indeed, the doubt which still overlays the etiology of many of the commoner chronic nervous diseases leaves ample scope for further investigation. In the case of tabes dorsalis, *e.g.*, in spite of all the attention bestowed upon the subject, it is still a moot point whether or not it should be looked upon as usually of syphilitic origin. The importance of determining, as far as possible, the relationship of any of these nervous disorders to syphilis cannot be overrated. Take the case, for instance, of the disease I have just alluded to. Last winter, a hospital patient came before me with an exaggerated ataxia which I have seldom seen surpassed, together with the usual accompanying changes in sensory conditions, reflexes, etc. A suspicion of syphilis was entertained, especially from the existence of certain local symptoms in the spine pointing to an affection of the bony canal. Under anti-syphilitic treatment this very unpromising case, to the surprise of many, made a rapid recovery. Some years ago a gentleman consulted me for a severe eruption upon the face, for which he had sought relief for twelve months without success. It annoyed him extremely, being very unsightly, and was accompanied by almost continuous insomnia, so that he walked the streets at night, became despondent, and came very near committing suicide. I failed entirely to get any history or any corroboration of syphilis, but was convinced that the cutaneous affection was of this nature, prescribed accordingly, and had the satisfaction of seeing him free from his tormentor.

A year or more after, he had an occasional epileptic fit (he had not, I may say, followed his treatment with regularity). I strengthened the dose. But, after a time, he became irritable, irascible, and fractious, showed weakness in the legs, lost his capacity for business, and suffered from pain in the head. Finally he lay in bed and became, from stupid, comatose—deeply so—and his death was hourly expected. Now, besides observation of the symptoms I have mentioned, and which, taken together, were highly significant, I had the important clue of the previous cure of the eruption by mercury. Without this, evidence of past syphilis would have been, by any one a stranger to the case, set down as absolutely wanting. I maintained that this comatose man would get well; and was laughed to scorn. But I insisted on pouring in all the iodide of potash I could—and he did get well. His friends who sat up several nights to close his eyes call him to this day “the resurrection man.” Now, actual cases of this kind cannot fail to make a great impression upon a thinking man when coming under his own observation. The recognition of the underlying cause of the phenomena observed is absolutely essential for the institution of a successful treatment. There are, perhaps, no cases you can think of in which the issue [of life or death hangs more directly upon the action or inaction of the physician in charge. The severer forms of cerebral disturbance often immediately threaten life, and, except promptly treated, will inevitably prove fatal. They are with great certainty met by the recognized remedies for the syphilitic disorders: and all other therapeutic efforts, without these, will prove totally ineffective. Every one knows the difficulty of determining, in many cases, whether the individual have suffered from constitutional disorder or not. On the other hand, the history may be clear, or careful scrutiny for remaining traces may give unmistakeable evidence; in which case our path is rendered easy. The fact seems universally admitted, and it quite coincides with my own limited experience, that persons who suffer from late-developed syphilis of the nervous centres are extremely likely to give no account of the well-defined secondary symptoms which are so common; at times, even, are

not aware that they have ever had any secondary symptoms. So important, in nervous cases, is the treatment, that the practice of giving a full course of potash as a test is highly recommended, and should be adopted in every case presenting the slightest element of doubt. Many such cases will arise, for the reason that although the concurrence of various symptoms and circumstances renders easy now and then a correct diagnosis of the syphilitic origin of a nerve-disorder, even without the help of the patient's history, yet there are no pathognomonic signs as yet definitely ascertained which will point conclusively, without the aid of the history, to the specific nature of the case. More dependence is to be placed upon the grouping together of various symptoms than upon any individual symptom. Take, for instance, Epilepsy. Many cases of general convulsions resemble, in almost every respect, what is called "Essential Epilepsy," and yet are due to constitutional taint. They cannot always be diagnosed as such. Then, the therapeutic test alone will often determine the question. If specific, bromides fail and iodide succeeds. But in other cases of epileptic character, certain other symptoms may be so associated with the convulsive attacks as to point the observer in the right direction. Dr. Buzzard says "there is frequently a history of antecedent pain in the head for months before the first fit." This is no part of the simple form. It was characteristically present, together with paresis of the limbs of one side, in the following case:—

CASE OF CEREBRAL SYPHILIS—PERSISTENT HEADACHE—REPEATED
EPILEPTIC ATTACKS—RAPID CURE UNDER
MERCURIAL INUNCTIONS.

J. C., æt. 30, single, admitted to hospital Oct. 8, '85, suffering from severe headache, and having recently had some epileptic fits. The first attack of this kind occurred on the 13th Sept. On that day he was seized with a sudden feeling of numbness, shooting rapidly up the right leg as far as the knee: the leg became cold and almost powerless. He stayed in bed the remainder of the day, trying to rub some life into the affected limb. Next day returned to work, but the leg felt heavy and inclined to drag. On the 20th, the right arm felt heavy and tired. By the 25th, this arm was useless, cold, and somewhat anæsthetic.

Had medical advice, and under treatment improved so much that the affected arm seemed as good as the sound one. On the 30th, whilst bathing his leg, he experienced in the calf a severe cramp which bent the leg upon the thigh; stooping to take hold of it, suddenly his whole body was seized with clonic convulsive movements. Thinks he did not lose consciousness at all. Had two more fits on the 6th October. He had remained at his work up to this time, and came to the hospital on the 8th Oct. On making further inquiries, it was learned that three years ago he contracted syphilis; fifteen months ago had alopecia and severe iritis of both eyes. He has during all this time suffered from pain in the head, sometimes very severe, and always with nocturnal exacerbations. The iritis was actively treated at the ophthalmic clinic. He says that he has been taking medicine of some kind more or less continuously since the trouble began. On admission, there is partial loss of power of right arm and leg, dizziness, a "numb shooting" pain on the left side of the head, deafness and tinnitus in the left ear. He is a strong, well-built man. Face symmetrical, conjunctivæ congested, especially the left. Pupils act well. In walking, the right foot shows a slight want of firmness, but there is no dragging. Grasp of right hand feeble as compared with the left. No optic neuritis or other change in the fundus oculi. Other organs normal.

On the 12th he had three fits, two in the morning and one whilst I was examining him before the clinical class. He suddenly exclaimed "I'm off," and had a very severe epileptic fit. The diagnosis was "cerebral syphilis," probably in the superficial portion of the left hemisphere, and in a stage of active progress. He was therefore ordered to be brought rapidly under the influence of mercury by means of inunction.

The pain in his head soon began to show signs of diminishing in severity. On the 15th, had the aura or premonitory cramp in the right leg, but by having this firmly grasped, the impending fit was averted. On the 17th, at midnight, another severe fit, and this was followed by a succession of four more, at intervals of a few hours until the afternoon of the 18th. There had been very severe pain in the head for a short time before this attack. The same day (17th) the "mouth and gums were sore," and the next day the mercurial ointment was omitted. Sharp salivation continued for the following week. He was (18th)

ordered iodide of potash, beginning with eight grains and increasing one grain every day till he should take thirty. Improvement was steady and continuous; headache was rapidly removed; had no more fits, though he occasionally had an odd sensation in the leg, which made him afraid he was going to have one; power returned in the right hand and his gait was firm. He was about the ward on the 2nd November, feeling very well, and was discharged on the 28th, still taking ʒiiss of iodide daily, and with directions to continue the treatment and report himself at intervals for the next three months.

Here, the history was unmistakeable, the attacks were recent, full treatment had not yet been tried, and the prognosis was most favorable. The result showed that this was fully justified. It is doubtful if, in this case, it is possible to locate the seat of the disorder. I have thought it is probably situated upon the convex surface of the left hemisphere. But, according to Hughlings Jackson, "the convulsion points simply to disease of some kind, not to any particular pathological change of, or in the side of, the brain opposite to that in which the spasm sets in."

Two remaining cases, of which, if you will allow me, I will present a few notes, illustrate, in the one, a sudden hemiplegia, and in the other certain very obscure peripheral and mental symptoms, which it was thought could hardly be explained, except from specific disease.

CASE OF CEREBRAL SYPHILIS—PROLONGED PAIN IN THE HEAD—
SUDDEN LEFT-SIDED HEMIPLEGIA—IMPROVEMENT.

J. O., æt. 40, was admitted 25th October, '85, suffering from complete paralysis of the left side and a severe pain in the right side of the head. Patient is an old soldier, who has had ague and fevers in the East. Ten years ago he was knocked down by a blow from the butt-end of a gun; was stunned for a few minutes, and was confined to bed for four days. Suffered no ill effects subsequently. There is a scar, but no evidence of fracture, at the seat of injury. Seven months ago he was inoculated with syphilis, for which he had some treatment, still presenting numerous brown stains upon the limbs and decided enlargement of glands in groins and neck, and at elbows. About three weeks ago began to suffer from pain in the right side of

the head, especially the temple, which was severe, and frequently kept him awake all night. On the 20th Oct., got out of bed and on his way to the closet dropped suddenly to the floor. Says he did not lose consciousness. Was carried back to bed, quite unable to move his left arm or leg. Speech was affected, and the tongue felt thick. On examination—Paresis of left facial muscles; tongue protruded slightly to the right. Complete motor paralysis, with flaccidity of the left limbs. Sensation impaired. Superficial reflexes on that side diminished. No change in optic discs and fundus. No enlargement of spleen. Heart normal. Urine contains neither albumen nor sugar. Was ordered Hydrarg. Protiodid. gr. $\frac{1}{4}$ and Potass. Iodid. gr. x ter die. Pain in head continued, with insomnia, for some days, but then gradually gave way, and by the 19th Nov. is reported quite absent, since which there has been no return. Incontinence of fæces was a troublesome symptom during the first two weeks. His mental condition at first was very uncertain, wandering a little at times, and inclined to ask silly questions. He is now quite rational. The motor power has been slowly, but steadily, returning. He can move the leg about, and flex it in bed quite freely, but cannot yet stand upon it. He also begins to move the arm. He remains under treatment.

A recognized peculiarity of sudden hemiplegia from syphilis is that there is no loss of consciousness: the patient feels giddy, perhaps, and on attempting to rise finds that he is paralyzed. It is not, however, confined to syphilis, and cannot be relied upon as diagnostic. The antecedent continuous head pain, the degree of mental disturbance and the incontinence of fæces (which seemed rather mental than from organic lesion), and the improvement under specific treatment, have seemed to justify the diagnosis. If correct, it will be remarked that the case is an example of involvement of the brain at a very early stage, seven months after infection, for it is admittedly rare to meet with this until at least one year has elapsed, and, indeed, generally several years.

SENSORY DISTURBANCES—LETHARGY—MENTAL IMPAIRMENT—
DEFECT OF SPEECH.

R. C., æt. 36, admitted 7th November, '85, complaining of numbness of the right side and difficulty of speech. On the 3rd January, 1883, patient had a sudden attack of smothering

or choking, lasting half an hour, during which time he could not speak distinctly, but only mutter. Nothing further happened until last January, when one day, at work, suddenly felt numbness in the right hand, which crept up the arm and side of the face, and in the right leg to the knee; had to drop his tools; the fingers of the right hand became flexed, but he could force them to open. Numbness and spasm continued for a quarter of an hour, and then completely disappeared. Was able to walk home immediately after, when it was noticed that his speech was very indistinct. There was no headache, vomiting or feverishness. He continued to work even up to a short time before his admission, but his friends soon noticed that his mental and general physical condition were much changed. He became dull, slow of speech, and somewhat stupid. Having been a good tradesman, he could not perform the work given him in a proper way, and was discharged from one shop after another, protesting all the time that he was quite well and capable. His memory failed a good deal. During the summer he had repeated attacks of the kind already described. His wife says that he would come home after one of these quite dazed and dull, could hardly speak at all, and would go to bed. Would sleep a great deal for the next twenty-four hours, rising only to take food, and saying a few words in a heavy, thick fashion. This would pass off and he would return to work. On examination, good physique, medium height, good intelligence, a slow, hesitating and deliberate mode of speaking, which he says began with the first attack. Says he does not suffer in any way; has nothing the matter, except that he is afraid of the attacks coming on. There is good motor power in all the limbs, and sensation is intact. Thoracic and abdominal viscera appear normal. Examination of eyes negative. On searching for evidences of syphilis, nothing could be determined beyond the occurrence of gonorrhœa twenty years ago. No traces of the constitutional disorder could be detected. He was given gr. 1-12 Bichloride of Mercury three times daily. Remained in hospital two weeks, and was, at his his own request, discharged, without any material change in his condition, and no definite numb-attack having occurred in the meantime.

In this case, the slow, deliberate speech is like that from multiple sclerosis, but there is no tremor, and the attacks have never been of the apoplectiform character which belongs to the latter. There is no optic neuritis or other sign of brain tumor.

TWO CASES OF GUNSHOT WOUND OF THE TESTICLE.

By JAMES BELL, M.D.,

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(Read before the Medico-Chirurgical Society of Montreal.)

CASE I.—W. B., æt. 28, a tall, muscular fellow belonging to the Midland Regiment, was struck by a rifle bullet in the skirmish which immediately preceded the final charge and rout of the rebels at Batoche on the 12th of May last. He was on the very bank of the river when the bullet struck him on the outer side of the left thigh, just below and behind the great trochanter and opposite the end of the natal fold. He was tumbled over the precipitous bank, and was with some difficulty secured and brought into the zareba, where the hospital staff were by this time pretty actively engaged. When undressed, it was discovered that the bullet had passed through the thigh, re-entered the perineum through the base of the scrotum, behind the left testicle, and thence made its exit through the body of the right testicle, making a large rent in the scrotum and tunica vaginalis. The testicle was carried completely out of the scrotum, and at the point of exit of the bullet a fringe of frayed and lacerated glandular structure protruded beyond the visceral layer of the tunic. This fringe of lacerated tissue I removed with sharp scissors, and after removing several pieces of cloth from the track of the bullet, and cleansing the sac with weak carbolic lotion, I returned the organ to the scrotum, and closed the scrotal wound with catgut sutures, leaving a capillary drain beneath. There was no hemorrhage or other troublesome symptom, and the wounds were dressed with carbolized gauze and iodoform. The patient felt comfortable after being dressed, and next day was put on board the steamer "Northcote" with the other wounded men, and sent up the river to Saskatoon in charge of Assistant-Surgeon Wright and a dresser. On arriving at Saskatoon he was found to be suffering from urinary infiltration. Extensive sloughing occurred, and his life hung in the balance for days,

but the scrotal wound never reopened, although most of the left side of the scrotum sloughed away. (The bullet had evidently wounded the urethra in passing through the perineum.) As the wound through the thigh began to heal, he suffered severely from pain, of a burning and tingling character, in the sole of the foot and shooting pains along the course of the great sciatic nerve and its branches. This and the large granulating surfaces left after the sloughing of the skin and cellular tissue made his convalescence slow, and he was brought down the river on the hospital barge with the last of the wounded, and arrived in Winnipeg on the 15th of July. By this time his wounds were all perfectly healed, although he was still suffering from the sciatic neuralgia. The right testicle was now about half its original size, firm, free from pain or tenderness, and freely movable in the scrotum. This case presents points of interest, apart from the wound of the testicle; but what I wish particularly to call attention to is the recovery of the testicle from a very severe wound and great loss of its substance.

CASE II.—J. D., æt. 32, a French half-breed, a powerful, muscular and ruffianly-looking fellow, was one of several rebels—half-breeds and Indians—who were picked up on the battlefield at Batoche on the night of the 12th of May, severely wounded, and brought to our camp for treatment. He had a large contused and lacerated wound, about two inches in diameter, entering on the posterior and outer aspect of the left thigh, just below the great trochanter, and passing forwards, upwards and inwards, partially separating the adductor longus muscle at its origin. There were also several irregular superficial wounds about the buttock and left side. The left testicle was completely carried away, as well as the whole lower two-thirds of the scrotum. The right testicle hung down uncovered, and in its lower half was filled with fragments of metal. (The wounds were thought to have been produced by the bursting of a shell, the large wound being caused by a rough irregular fragment of metal passing through the thigh.) In the morning the shreds of the left testicle were removed, and his wounds cleansed and

carefully dressed, and he, with another rebel (Jobin, who subsequently died), was sent up to Saskatoon on the steamer, along with our own wounded. He had severe constitutional symptoms for a few days—fever, delirium, etc.—but these soon passed away. The right testicle was not subjected to any operative treatment, but was treated expectantly, and in a few days the lower half of the testicle sloughed off, leaving an irregular granulating surface. The other wounds progressed favorably, and as there was no possibility of this portion of the testicle being covered by the natural processes unaided, I had the patient anæsthetized, loosened up the skin of the scrotum remaining, pared its edges, and covered in the testicle. The result was extremely satisfactory, and in a few weeks before the wounds in the leg had healed, the scrotum had completely united, and the remaining portion of testicle could be felt firm and painless within it, and apparently attached to the cicatrix at the base. In the latter part of June, all his wounds having healed, he was sent off to Regina to stand his trial, as he was an important State prisoner.

The success attending the expectant treatment of these two cases has led me to think that hardly any laceration of the testicle can be, in itself, so severe as to necessitate castration, although, from what I have been able to gather on the subject from the literature within my reach, immediate removal of the organ is recommended in severe injuries by most authors. All authors agree that the injured testicle usually atrophies, and is sometimes the seat of neuralgic pain, so that in point of usefulness it might as well be removed at once. Patients, as a rule, however, prefer not to have the organ removed if it can possibly be saved, and from the statistics given in the surgical history of the American war, the expectant treatment seems to have been safer than active operative treatment; 586 cases are reported, nearly all of which were complicated. The testicle was extirpated in 61 cases (and from the reports of the cases some of the testicles removed were not very severely injured), 18 per cent. of these cases died, while of the remainder only 11.9 per cent. died. Matthew, in the surgical history of the British army in

the Crimea, reports four cases treated expectantly; all healed, but atrophied later on. Heman (Principles of Military Surgery) says that even when fungous protrusion of the substance of the testicle occurs, clipping off of the fungous portion is all that is necessary to secure healing.

CLINICAL NOTES ON "CHOREA LARYNGIS."

WITH CASE RECORD.

By GEO. W. MAJOR, B.A., M.D.,

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Laryngeal chorea, recognized as such, is of comparatively rare occurrence. It is within the limits of possibility, however, that a small percentage of all cases of spasmodic cough occurring in persons of neurotic habit is of a choreic nature, and that if the act of coughing were investigated laryngoscopically, more numerous instances of this affection would be recorded. An uncontrollable desire to cough, especially if of a barking character, when developed in a person the subject of chorea, should at once suggest its probable nature.

In forming an opinion, it is essential that the hysterical element should be carefully excluded, a task not very easily accomplished, as one condition frequently coexists with the other.

A typical case of laryngeal chorea may be defined to be one in which there is an involuntary and uncontrollable cough during waking hours, absent during sleep, spasmodic in character and accompanied by various sounds resembling the noise produced when straining, the barking of a dog, and so forth. There is associated with it spasm of the expiratory muscles of the chest and abdomen. The speaking voice is normal, articulation is perfect, and the general health usually good.

On laryngoscopic examination, which is generally well borne, the act of coughing is found to be preceded by spasm of the laryngeal adductor muscles bringing the vocal cords into close relation, often with an audible click, when the action of the ex-

piratory muscles suddenly forces them apart, producing the somewhat characteristic cough. Between the acts of coughing the glottis assumes a variety of shapes, constantly changing its outline, indicating choreic movements of the intrinsic laryngeal muscles. The larynx itself presents but slight departure from a state of health, if we except trifling congestion of its mucous membrane, and occasionally, perhaps, a moderate degree of swelling.

Under the designation of chorea laryngis a number of cases have been improperly described, as, for example, those in which the expiratory muscles of the abdomen, or of the chest and abdomen, have alone been affected, producing a spasmodic cough, it is true, but in which no laryngeal evidence of chorea was obtainable. Strictly speaking, the term should be confined to those in which we find by direct inspection motor implication of the intrinsic muscles of the larynx, whether accompanied by spasm of the muscles of expiration or not. In other words, the diagnosis of chorea of the larynx should depend upon recognized choreic movements of the laryngeal muscles, and the existence of a general chorea preceding, accompanying or following the laryngeal motor neurosis should strengthen and fortify rather than detract from the accuracy of our diagnosis. In the absence of spasm of the expiratory muscles, one must be prepared to make a diagnosis without the assistance of cough as a symptom. Such cases are, however, exceedingly rare, as the whole range of medical literature furnishes but one (Knight's) solitary instance.

For the better illustration of this uncommon neurosis there is appended a short clinical report of a case which recently came under observation, a perusal of which may be found interesting:

Mlle. R., a healthy-looking young lady of sixteen, was seen in consultation with her medical attendant, Dr. Proulx, on Oct. 27, '85. She was suffering from a cough of a barking character, which was not only a source of discomfort to herself, but of great annoyance to her family. The cough, which had already lasted two months, occurred at regular intervals of three or four minutes and was entirely absent during sleep. All the ordinary remedies, local and constitutional, had already been resorted to with-

out perceptible improvement. On critical observation the cough was found to be explosive as well as barking, and was followed by a decidedly laryngeal sound resembling that of œdematous laryngitis. The young lady complained of some slight distress of breathing when recumbent. All attempts on the part of the patient to control the cough were unavailing. Articulation was perfect, and at the time of the consultation there was an absence of symptoms of hysteria, general chorea, or other nervous affection.

On making an examination of the larynx—a matter, by the way, of easy accomplishment—moderate congestion of the lining mucous membrane, especially in the neighborhood of the arytenoid cartilages, was found. The vocal cords, though not of normal pearly lustre, were not hyperæmic.

The act of coughing was observed with the mirror, and presented the following features: The vocal cords were first thrown into violent contact, and after so remaining for a few seconds were as abruptly forced apart, when the cough took place. During the act, the spasm of the adductors never thoroughly relaxed, but varied in degree. The laryngeal sound which followed closely in the wake of the first respiratory effort may thus be accounted for. Spasmodic action of the abdominal expiratory muscles coexisted. In the intervals between the acts of coughing the glottic space presented a varied configuration, without, however, in any way interfering with the function of healthy respiration. Throughout this kaleidoscopic period of glottic images there predominated in a marked degree the well-known outline of double thyro-arytenoid paralysis, with paresis of the arytenoideus. This latter condition may have had no direct connection with the neurosis, and probably had not, but was more likely a secondary result of continued strain and fatigue extending over a long period of unnatural activity.

Laryngeal chorea was diagnosed. On expressing this opinion, Dr. Proulx cordially endorsed it, and in support of it stated that preceding the stage of cough there had existed a well defined more or less general chorea, which necessitated the withdrawal

of the young lady from the convent school at which she was a pupil.

On December 4th, in reply to a letter of inquiry concerning the progress of the case, the doctor reported decided improvement under the use of liquor arsenicalis, supplemented occasionally by valerianate of zinc. There had been a gain in weight and an improvement in appetite. The cough also showed decided amelioration. Altogether, he considered the patient as speedily convalescing.

Laryngeal sprays of cocaine did not afford any relief—as good an argument in favor of the neurosis of motion theory of chorea laryngis as it is against the theory of reflex action from laryngeal hyperæsthesia.

The foregoing clinical history is most instructive, as it groups in a very complete manner the characteristic, though not always constant, features of chorea of the larynx—a condition the recognition of which is extremely important, as it may exist independently of any other choreic symptom. The treatment of this disease must be carried out on the general principles found useful in controlling chorea in other organs. Works on General Medicine do not treat of this local manifestation of chorea, nor, indeed, do the authors of standard publications on Diseases of the Nose and Throat. For information on this obscure phenomenon we are dependent upon rather less than a score of articles (the majority of which are case reports) that have appeared from time to time in the medical journals.

Five investigators only have recorded their observations in our language.

REPORT ON PHARMACOLOGY AND THERAPEUTICS.

By JAMES STEWART, M.D.,

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STROPHANTHUS AS A SUBSTITUTE FOR DIGITALIS.

It is now one hundred years since digitalis was introduced as a medicinal agent. First used as a cathartic and emetic, afterwards its diuretic properties were discovered, and, still later, it was principally used for its so-called sedative action on the heart. It is only a few decades since its true cardiac tonic action was even thought of, and it was not until modern pharmacology stepped in and demonstrated this action that it came to be universally recognized as such. After many ups and downs, it has finally secured a lasting foothold as a therapeutic agent.

During the past few years many drugs have been introduced as substitutes for digitalis. There is a general impression among physicians that digitalis not unfrequently acts in an explosive sort of way. That it is a so-called cumulative agent. By this is meant that it is retained in the system for a certain time without acting in its usual way, and that suddenly the action of what has been absorbed for some time is all at once made manifest, and that in this way dangerous effects will be produced.

When the evidence upon which this supposed action is closely examined, it will be found to have little or no weight. It is absurd to suppose that a drug like digitalis can be retained in the blood for an indefinite length of time without being eliminated. The same law applies to it as to every other agent that circulates as a foreign body in the blood. Within two or three days at most, all drugs circulating in the blood, unless they enter into chemical combination with the blood constituents, must be either eliminated or deposited in the tissues. There is no evidence whatever that digitalis is deposited in the tissues after circulating. The only other possible way it could be retained in the system would be its deposition in the liver on its way from the intestinal mucous membrane to the general circulation. We know that the liver possesses a peculiar function in

retaining, destroying or excreting certain alkaloids. But that digitalis is ever retained by the liver is highly improbable. When its action is closely watched, it will always be found that each and every dose produces its effect on the circulation. There is nothing of the mysterious in its action. It follows the general law of absorption and elimination.

It is undoubted that digitalis is slow in bringing about its physiological action, that it has to be administered in full doses for two or three days before the more pronounced actions on the heart and vessels is seen, and, further, that its action continues some days (three or four) after it is discontinued. It is this slowness in acting that is the principal drawback in its use. Time is an important element to patients suffering from cardiac failure, and for this reason alone it is important that we should endeavor to find an agent that is capable of doing all that digitalis can do, and particularly one that can do it at all quickly. During the past few years many drugs have been introduced as substitutes for it, prominent among which are caffeine, scillain, adonidin, convallamarin, antiarin, helleborein, oleandrin, and erythrophloein. With the exception, perhaps, of caffeine, none of these agents have come up to expectations, and even it cannot take the place of digitalis. It certainly acts more quickly, but less effectively. The latest aspirant for this honor is a substance called strophanthin, a glucoside obtained from *strophanthus*, a plant widely distributed throughout Central Africa, and used by the natives as an arrow poison. It produces a follicle from 9 to 12 inches in length, within which are contained from one to two hundred oval seeds. These seeds, when ground and formed into a paste, constitute the poison with which the arrows are smeared.

Prof. Fraser, of the University of Edinburgh, has made this plant the subject of an extended series of experimental investigations both in man and the lower animals. The results were presented to the members of the British Medical Association, in the section of Pharmacology and Therapeutics, at the Cardiff meeting, and will be found in the *British Medical Journal* of November 14th, 1885. Prof. Fraser found that strophanthin, no

matter how it is introduced into the blood, powerfully affects the contractile power of all striped muscles. The muscular contractions are more complete and prolonged. The heart muscle is the first to be affected. The contractions are increased in force and rendered slower, while in over-doses the heart's movements comes to a stand-still in rigid contraction. These effects take place even after the influence of the cerebro-spinal centres is removed. They closely resemble those of digitalis, and are accompanied, as in the case of the latter, by a rise in the blood-pressure, and, in certain conditions, by an increased secretion of urine and a reduction of temperature. One part of strophanthin in 100,000 will quickly stop the heart of the frog in systole, while digitalin in the same proportion, although it produces slowing and increased vigor, will not arrest the heart. Dr. Fraser even found strophanthin, in the proportion of 1 to 6,000,000, arrests the heart's contractions of the frog in extreme systole in twenty minutes. This shows a very marked difference in the power of these two agents in their direct action on the heart. Digitalin, on the other hand, was found to exert a much more powerful influence on the blood-pressure than strophanthin. In a frog whose central nervous system was destroyed, a solution of digitalin of the strength of 1 to 20,000 passed through the blood-vessels, produced, in six or seven minutes, such extreme contraction of the vessels as practically to prevent the solution from passing any longer. A solution of the same strength of strophanthin had no appreciable, nor could any marked effect be obtained from solutions more than six times the above strength, a very temporary effect only becoming obtainable from a solution of 1 in 2000. "Strophanthin, therefore, exerts a much [more powerful action upon the heart and less powerful action on the blood-vessels than digitalis." This difference in action, it is conjectured, may be of considerable therapeutic importance. In purely cardiac lesions, it may be found that strophanthin, which acts principally on the heart and but little on the blood-vessels, may be a more efficient cardiac tonic than digitalis, as the latter, at times, greatly increases the peripheral resistance, while at the same time it increases the systolic vigor. These deductions are matters, however, of mere conjecture.

Dr. Fraser gives an account of several cases of cardiac disease where he employed strophanthin. The first is that of a man, aged 43, who was admitted into hospital suffering from great breathlessness, cough, and swelling of the feet. The liver and spleen were enlarged and the lungs œdematous. The heart was enlarged, and its mitral valve incompetent. The pulse at the wrist was scarcely to be felt, small and irregular, and 40 pulsations could only be felt in the minute, while 160 could be detected at the heart. After a two days rest in bed, the patient was given a tincture of strophanthus, which apparently rapidly and greatly improved his condition. The pulse became stronger, more regular, and less rapid. The œdema of the legs and lungs rapidly disappeared, and the patient expressed himself as feeling very comfortable. Twenty-four hours after the administration there was a rapid and great increase in the quantity of urine excreted, and which continued. The patient ultimately left the hospital in comparatively good health.

The second case was that of a boy, aged 14, who had been ill for three years, and who, on his admission into the hospital, complained of breathlessness, etc. He had œdema of the legs and lungs. There was ascites, occasionally vomiting and diarrhœa. All the above symptoms were due to a constricted and leaking mitral valve. On the ninth day after his admission he began taking strophanthus. The frequency of the pulse almost immediately began to fall and the quantity of urine to increase. The quickness and irregularity of the pulse soon gave place to slowness and regularity. He made a satisfactory recovery from the urgent symptoms, and was convalescent six weeks after his admission.

The third case is one of mitral and tricuspid incompetence in a lad aged 16. He began to suffer from breathlessness three months before he came under treatment. His feet, legs, belly and face were swollen, and the urine was greatly lessened in amount. Very shortly after commencing the use of strophanthus there was a marked change for the better, which continued and increased until his discharge.

In the fourth case, the strophanthus was administered hypodermically in doses of 1-50th of a grain. The patient was a

woman, aged 33, suffering from mitral regurgitation, following acute rheumatism. There was great obstruction of the circulation, with anasarca; the pulse was so rapid and feeble as to be almost uncountable, and the urine was scanty and contained albumen. The action of the drug was apparently distinctly manifest twenty minutes after the first injection, and continued for a period of twenty-four hours. The pulse, which was 136 before the injection, fell in one hour and a-half to 124, in two hours to 98, and in three hours to 88. The urine amounted, on an average, to 29 ounces daily during the six days immediately preceding the injection; on the following day it amounted to 36, and on the second day, and before any more strophanthine had been given, to 50 ounces.

The fifth and last case related is that of a female, aged 22, who was under observation for a long time, while suffering from mitral regurgitation. In five minutes after the injection of 1-50 of a grain of the strophanthine the pulse, which at the wrist was not previously countable, was 108; in one hour it was 92; in one hour and forty minutes it was 86, and could be easily and correctly counted. The character of the pulse tracing was distinctly improved in twenty minutes; and in forty minutes the patient volunteered the remark that she had not felt so little distress from palpitation and breathlessness for six weeks. The beneficial influence of the single injection in this case lasted eight days. The increase in the flow of urine was maintained for the same length of time. The average quantity of urine voided in the two days preceding the injection of strophanthine was 27 ounces; it was increased on the following day to 55 ounces; on the second day to 58, on the third day to 70, on the fourth day to 74, on the fifth day to 82, on the sixth day to 78, on the seventh day to 64, and on the eighth day to 78.

THE TREATMENT OF LUPUS.

It will be remembered that at the International Congress held in Copenhagen last year, with the exception of Kaposi, all the speakers who took part in the debate on lupus looked upon this disease as a tuberculosis of the skin. Although tubercle bacilli

are very frequently found in lupoid infiltrations, and carefully conducted experiments have shown that the injection of lupus tissue into the blood and tissues of the lower animals causes tuberculosis in many cases, we are still far from certain what is the exact pathological relation there between lupus and tuberculosis of the skin—whether they are the same or different affections.

Since the tuberculous nature of the lupus tissue has become so generally accepted, many experiments have been conducted with the view of testing what, if any, influence is exerted over it by antiseptics. Doutrelepont of Bonn has used corrosive sublimate for this purpose. He employs a solution of the strength of 1 in 1000. Compresses soaked in this solution are fixed over the affected parts and covered with gum paper. He gives a report of some twelve cases in all, where a complete cure has resulted. The length of time before this end was attained varied from three to six months. The ages of the patients varied from 14 to 54 years. The cases included the several varieties of lupus—ulcerative, serpiginous, hypertrophic. Not only was there healing of ulcerative surfaces, but a complete absorption of the lupoid infiltrations—"a complete involution of the new formation." In no case was there observed any of the untoward effects of the mercurial preparation, either local or general.

In situations like the eyelids, where it was not convenient to apply the compresses, the sublimate was used in the form of an ointment made by dissolving one part of this salt in a sufficient quantity of sulphuric ether, and then mixing it with 300 parts of vaseliné. In order to prevent relapses, it is recommended to continue the application of this ointment after an apparent cure has been obtained.

If Doutrelepont's observations are correct, we have in corrosive sublimate the most ancient means yet discovered of treating lupus. It should be mentioned, however, that in a number of his cases arsenic was given internally while the sublimate was being applied externally. It is a well known fact that the internal use of arsenic, like cod liver oil, has an influence in inducing the involution of lupoid formations.

LACTIC ACID AS AN ESCHAROTIC.

At a meeting of the Society of Physicians of Vienna, held on November 20th, Prof. Mosestig-Moorhof exhibited two patients illustrating the value of lactic acid as a destroyer of new formations. One case was that of a man, aged 55, who came under observation about six months previously with an epitheliomatous ulceration of the left temporal region, involving the left angle of the eye. It was six cubic centimetres in extent, and extended transversely from the lobe of the ear to the angle of the eye, and vertically from the edge of the hair to the angle of the lower jaw. The disease first made its appearance three years previously. A microscopic examination confirmed the clinical diagnosis of epithelioma. On twenty-six different occasions lactic acid was applied to the ulcerated surface, and four times a 50 per cent. solution of it was injected into the infiltrated borders. As a result of this treatment, the whole of the large granulating surface described had completely healed, with the exception of a very small healthy granulating surface. The borders, from being rough and hard, had become smooth and soft.

The second case was that of a woman aged 60, whose trouble began four years ago in the form of a rodent ulcer, which slowly and steadily progressed until it destroyed almost the whole of one cheek and infiltrated the orbit, necessitating the removal of the globe. The carcinomatous nature of the infiltration was confirmed by an histological examination. Twenty applications of lactic acid caused a marked change. The disease soon ceased to progress, and the borders commenced to show signs of healthy action. After the removal of a small piece of dead bone in the upper jaw, this tissue also showed healthy action, and when the woman was exhibited there was nothing to indicate or to lead one to believe that she had a malignant ulceration. The granulations were healthy, and healing was proceeding satisfactorily. On account of the very extensive destruction of tissue there could, of course, be no return to the normal condition.

Mosestig-Moorhof, in answering the question, Were his patients healed? said he knew not, but he was certain that the acid had

removed all the diseased tissue, and that was all the surgeon could do. These cases were certainly a very severe test for any agent. They were practically incurable cases—cases such as no surgeon would attempt to remove. The treatment extended over several months, and on both the patient and surgeon's part required great patience and perseverance. The acid is applied in its pure state to the raw surface. Pieces of cotton wool saturated with it are fixed to the diseased parts, and kept there from six to twelve hours. The application causes considerable pain, and while this lasts it may be taken as an index of the active action of the acid. After its removal, the parts should be washed and covered with cotton wool. The local application of fatty substances should be avoided, as they will subsequently interfere with the activity of the lactic acid. A second application should be made in two or three days.

It is claimed for lactic acid that it is a powerful destroyer of diseased tissue, especially new formations, and that it spares healthy tissue. The only effect of its application to the latter, even for a period of twenty-four hours, is to cause redness.

Reviews and Notices of Books.

Handbook of Pathological Anatomy and Histology.

By FRANCIS DELAFIELD, M.D., and T. M. PRUDDEN, M.D.
New York: Wm. Wood & Co.

In this second edition of his handbook, Dr. Delafield, besides associating himself with Dr. Prudden, has greatly extended the scope of the work which was at first merely intended as a guide in post-mortem examinations. The authors modestly state in the preface that the present edition "is intended to supply all the needs of students and practitioners who wish to add a knowledge of the lesions of disease to that of its symptoms." This would seem a very odd reason for limiting the text of the book to a mere statement of anatomical conditions found after death without attempting in any way to explain their significance or even show the connection between the various lesions of the same disease, still less to deal with their causes. The arrangement

of the book is strictly according to locality, a plan which, while making it convenient for reference, also makes its style appear abrupt and jerky, so that the reader, feeling after a few minutes as if he had stumbled across a dictionary, can scarcely help wishing that it would not change the subject quite so often.

With regard to the facts contained in it, since the authors systematically abstain from stating any special tendencies or complications, there is very little to which exception can be taken, though the paragraph dealing with acute interstitial nephritis, "a rare form of nephritis, one of the noticeable features of which is marked dropsy without the presence of albumen in the urine," excites curiosity without satisfying it, and the fact that, after passages like this, no reference to the literature of the subject is given, makes it doubly provoking. The classification and nomenclature is often puzzling, and in many places, particularly with reference to the forms of peritonitis, there is a good deal of hair-splitting, having no obvious pathological basis.

The chapters on Tumors would be more complete if papillomatous growths had not been ignored. The absence of any chapters on diseases of the eye and ear is a serious defect.

As might be expected from any work of Dr. Delafield's, the illustrations form a prominent feature, and show a high degree of artistic finish, but in this, as in most American works of this sort, we notice the employment of needlessly high magnifications. Why Dr. Delafield should require lenses magnifying 700 or 800 diameters to demonstrate merely what less gifted individuals can see perfectly well with 200 or 300 must remain a matter between himself and his optician. The illustrations of lung diseases, which are the best in the book, are the same as those issued separately some years back under the title of "Studies in Pathological Anatomy."

A valuable addition consists in the collection at the end of the book of short practical notes concerning the lesions met with in poisons and in deaths by violence. This is well worthy of study by any one having to deal with medico-legal cases.

The authors, in attempting to adapt the book to all the requirements of students and practitioners, have aimed at what

would be quite impossible in a work of this size. Students need a book in which the doctrine is forcibly set forth and the significance of the facts fully and clearly explained. References to authorities are for the most part unnecessary and confusing, while on the other hand, in writing for practitioners who are capable of weighing evidence on doubtful points, the references should be full and copious. The book under consideration, therefore, though quite unsuited to the requirements of medical students, should be found very valuable to practitioners, and its value would be greatly enhanced if, in a future edition, the references were systematically filled in. The publishers have done their work admirably, both as to the style of the book and the execution of the engravings.

Fowne's Elementary Chemistry.—Lea Brothers & Co., Philadelphia.

This is an American edition of Fowne's Organic Chemistry, by Watts, from the twelfth English edition (1877), together with Watts' late book, "Physical and Inorganic Chemistry." These two books are bound together, making a very ponderous volume of over one thousand pages of rather trying print.

When we consider the outrages we have suffered at the hands of Fowne's Chemistry, we have some difficulty in approaching this new edition with an unprejudiced mind. We remember in our undergraduate days becoming more or less intimate with most of the inhabitants of our book-shelf, even chumming at times with Gray's Anatomy, but never at any time succeeded in obtaining more than a bowing acquaintance with Fowne's Chemistry. It seemed right and proper to read Fowne's, and to see it noted among the college text-books. It always inspired a profound respect, but it never occurred to us to make ourselves master of it as we did of our Holmes or Dalton. A master of Fowne's! What presumption. We submitted to nightly defeat in our futile endeavors to become familiar with it. Our coy advances everywhere met with a cold, perplexing reception, till at length compelled to fall back on the companionship of lecture-notes or quiz-compends, we passed our examinations with unalloyed pleasure.

Fowne's Chemistry, however, still retains its position as the orthodox college text-book. This is undoubtedly partly due to force of habit and partly to its former worth as a class-book, when the facts were fewer and the laws of chemistry still remained disconnected. With the strides chemistry has of late years made, Fowne's Chemistry, under the editorship of Mr. Watts, has made frantic efforts to keep pace, but with each edition such a mass of new facts had to be added that its usefulness as a text-book has gradually decreased, until of late years not only has that usefulness departed, but it has been positively detrimental to the teaching of sound chemical science in our colleges. The book is oppressive in size, too detailed in matters of fact, and wanting in logical scientific enunciation of the theory. Every student buys one; few read it; all dislike it. The present edition attempts to deck out the rickety old skeleton in modern style, but the result is the production of a volume not complete enough to be called an encyclopædia, and too much padded with unnecessary detail to be used as a text-book for students. For those who like Fowne's Chemistry, however, this new edition is probably just the sort of book to meet their views.

Clinical Studies on Diseases of the Eye: Including those of the Conjunctiva, Cornea, Sclerotic, Iris, and Ciliary body.—By DR. FERDINAND RITTER VON ARLT, Professor of Ophthalmology in Vienna. Translated by LYMAN WARE, M.D., Surgeon to the Illinois Charitable Eye and Ear Infirmary, Chicago. Philadelphia: P. Blakiston, Son & Co.

The author of this work has been so long known as a master mind in the science of ophthalmology that his writings are always sure to be received with more than ordinary appreciation by those who wish to keep abreast of the times in ophthalmic lore. It will be seen that the subjects treated of in this volume are of primary importance to the general practitioner, including, as they do, all the diseases peculiar to the conjunctiva and anterior portion of the eyeball, which, indeed, comprise the majority of

all the morbid conditions to which the eye is liable. It is a grave fault to be noticed in most handbooks on the eye that the necessarily limited space allotted to each division of the work involves too much brevity in the consideration of just those subjects which this work treats of in a complete and exhaustive manner; but what lends to it a special charm for the reader is the knowledge that the author is giving to the world the benefit of his own extraordinarily rich and fruitful experience as a clinical observer and a practical therapist. It is to be hoped that the author will carry out the half promise contained in his preface, and publish other volumes embracing the entire range of ophthalmology. Judging from that which we have now before us, such a complete work would probably become the most popular ophthalmic treatise of the time. The translator is to be congratulated on the faithful and thorough manner in which he has performed his task; the few notes and additions he has made are of real value, and at the same time do not give the impression of altering in the least degree the original character of the work, in the conscientious presentation of which, by a somewhat scrupulously close translation, there are here and there observable some of the faults in phraseology that are, perhaps, more or less inseparable from all translations. The American edition of this work is certain of a circulation sufficiently extensive to meet the most sanguine expectations of both author and translator.

A Treatise on Nervous Diseases: their Symptoms and Treatment. A Text-book for Students and Practitioners.—By S. G. WEBBER, M.D., Clinical Instructor in Nervous Diseases, Harvard Medical School; Visiting Physician for Diseases of the Nervous System at the Boston City Hospital, etc. New York: D. Appleton & Co.

Dr. Webber's work is intended for students and practitioners, the aim of the author being to give a fairly full and accurate account of the more prominent diseases of the central and peripheral nervous system. We have now a large number of works on the nervous system in the English language, but we know of

no work that is better adapted for the needs of the student and young practitioner than Dr. Webber's. In the first chapter the author deals with the methods to be adopted in testing motion, sensation, and the reflexes. A description is also given of some of the more prominent symptoms common to many nervous affections, and the treatment to be adopted. In the next chapter, a short and, as far as it goes, accurate account of the anatomy and physiology of the brain is given. The following six chapters deal with the diseases of the brain. A particularly full and interesting account is given of cerebral hæmorrhage. Chapters IX to XXI are devoted to the diseases of the spinal cord. The author believes that exposure to cold, especially cold combined with wet, is one of the most frequent exciting causes of tabes dorsalis. It has always appeared to us that cold plays a much more prominent part in the causation of this disease than it gets credit for. The marked frequency of a history of syphilis in tabetic cases is beyond all doubt, but it is far from being proved that the sclerosis is induced by syphilis. In no other tissues have we such changes from syphilis as we find in tabes, and when we consider the comparative worthlessness of antisiphilitic treatment in this disease, even in patients with marked syphilitic histories, it is clear that syphilis is not a direct cause of the disease, except in rare cases. The evidence that exposure to cold and wet is sufficient to cause tabes is beyond all doubt. The diseases of the sympathetic and peripheral nerves are dealt with in a very practical manner. The concluding chapters are taken up with a description of neurasthenia, tetanus, tetany, myxœdema, the toxic neuroses, syphilis, together with an account of the so-called functional affections of the nervous system.

A Practical Treatise on Diseases of the Kidneys and Urinary Derangements.—By CHAS H. RALFE, M.A., M.D., F.R.C.P., Lond., Assistant Physician to the London Hospital. With illustrations. London: H. K. Lewis.

This work, which is one of "Lewis's practical series," is intended to meet the requirements of the general practitioner and the student of medicine. It gives a more detailed account of

urinary derangements than is to be found in any of the ordinary handbooks on the practice of medicine. It begins with a description of the symptoms common to many of the kidney diseases, such as dropsy, uræmia, acetonæmia, neuralgia, asthma, derangements of digestion, etc. One hundred pages are devoted to the means employed for making a clinical examination of the urine. The author strongly urges the necessity, when testing for albumen, to employ heat, in addition to some of the other tests now so commonly employed. The latter, he says, should never be entirely relied on, partly because they sometimes precipitate other bodies, such as urates, alkaloids, peptones, mucin, etc., and partly because in themselves they do not discriminate between the modifications and other forms of albumin. It matters little, however, which reagent is selected, so long as heat is one of the tests employed. The causes of albuminuria are given in detail, and special stress is laid on the frequency and importance of the now so-called functional albuminuria. The theories advanced to explain why albumin exudes into the urine in some diseases, or, rather, why it does not transude in health, are fully described. The view that the epithelium of the glomeruli and tubules possesses the power of retaining the albumin in health is strongly borne out by the fact demonstrated by Dr. Robertson of Glasgow. He injected atropine into a cat whose urine was free from albumin. On the first and second days afterwards the urine became albuminous, but was free on the third, when the animal seemed quite recovered from the effects of the drug. The atropine paralyzes the renal epithelial cells, as it does the cells of the submaxillary and mammary glands, and thus the re-absorption of the albumin is prevented; it therefore appears in the urine. No doubt many of those cases of transient so-called functional albuminuria are due to the paralyzing influences of ptomaine-like agents during their elimination by the kidneys. These agents arise during the progress of pancreatic digestion. There are other factors, such as increase in the tension of the renal arterioles and changes in the specific gravity of the blood, which take a part in the transudation of albumin. The author explains the small amount of albumin in the urine

throughout the entire course of chronic interstitial nephritis as due, during the first stage, to there being little or no interference with the functional activity of the renal epithelium, that it is able to reabsorb the albumin forced through by the increased pressure; while in the late stages, when the epithelium is destroyed, there is so little blood circulating in the organ from the obliteration of its vessels by the contracted tissue that there is little albumin in consequence to transude. For the same reason the indurated kidney of chronic cardiac disease and the waxy kidney are not attended by any great transudation of albumen.

The different forms of Bright's disease are fully and clearly described, as well as the suppurative inflammations of the kidney and its outlets. New growths, parasites, and abnormalities of the kidney each form the subject of chapters.

In the treatment of diabetes, particular stress is laid on the great value of an old, but much neglected, remedy, viz., opium. Cases are given showing what large quantities of this drug can be taken in this disease without causing its usual untoward effects. When a patient is returning from a diabetic diet to his old way of living, it is necessary to give the opium in increased quantities. There appears to be little or no danger of the opium habit being contracted. Under its influence the urine diminishes greatly in quantity, the appetite and thirst are restrained, and the patient gains in strength and weight. There is no danger of bringing about diabetic coma from the use of opium, even in large doses. The opium is called for, when, after a fair trial of restricted diet, sugar still continues to be excreted in the urine.

Chapters on lithuria, oxaluria, phosphaturia, peptonuria, and hæmoglobinuria conclude a work which will be found to be a profitable addition to the physician's library.

The *American Journal of the Medical Sciences* for January, 1886, appears in a new and enlarged form, being called the *International Journal of the Medical Sciences*, and under the joint editorship of Dr. J. Minis Hays of Philadelphia and Dr. Malcolm Morris of London. The present number contains several papers of much merit, contributed by leading English

writers as well as the usual original articles from prominent cis-Atlantic authors. The special departments of the quarterly summary of medical progress have each been placed under the direction of a responsible and experienced director. This well known quarterly is maintaining its high position, and the recent changes will undoubtedly add much to its value and interest.

Books and Pamphlets Received.

CLIMATOLOGY AND MINERAL WATERS OF THE UNITED STATES. By A. N. Bell, A.M., M.D. New York, Wm. Wood & Co.

DIAGNOSIS OF DISEASES OF THE BRAIN AND OF THE SPINAL CORD. By W. R. Gowers, M.D., F.R.C.P. New York, Wm. Wood & Co.

DISEASES OF THE LUNGS OF A SPECIFIC, NOT TUBERCULOUS, NATURE. By Prof. Germain Sec. Translated by E. P. Hurd, M.D., with Appendices by Geo M. Sternberg, M.D., and Prof. Dujardin-Beaumez. New York, Wm. Wood & Co.

CLINICAL NOTES ON UTERINE SURGERY. By J. Marion Sims, A.B., M.D. New York, Wm. Wood & Co.

VENEREAL MEMORANDA FOR THE STUDENT AND PRACTITIONER. By P. A. Morrow, A.M., M.D. New York, Wm. Wood & Co.

CUTANEOUS MEMORANDA. By Henry G. Piffard, A.M., M.D. Third edition. New York, Wm. Wood & Co.

THE EXTRA PHARMACOPŒIA, with the additions introduced into the British Pharmacopœia, 1885. By Wm. Martindale, F.C.S., &c. Medical References and a Therapeutic Index of Diseases and Symptoms. By W. Wynn Westcott, M.B., Lond. Fourth edition. London, H. K. Lewis.

PRACTICAL SUGGESTIONS RESPECTING THE VARIETIES OF ELECTRIC CURRENTS AND THE USES OF ELECTRICITY IN MEDICINE. By Ambrose L. Ranney, M.D. New York, D. Appleton & Co.

THE INFLUENCE OF SEX ON DISEASES. By W. Roger Williams, F.R.C.S., &c. London, J. & A. Churchill.

A MANUAL OF ANIMAL VACCINATION PRECEDED BY CONSIDERATIONS ON VACCINATION IN GENERAL. By Dr. E. Warlemont, Translated by Arthur J. Harries, M.D. London, J. & A. Churchill.

THE PRINCIPLES AND PRACTICE OF MEDICINE. By the late Charles Hilton Fagge, M.D., F.R.S. Including a section on Cutaneous Diseases, by P. H. Pye Smith, M.D., M.C.S.; chapters on Cardiac Diseases, by Samuel Wilks, M.D., F.R.S.; and complete Indexes by Robert Edmond Cannington, M.D. Vol. I. Philadelphia, P. Blakiston, Son & Co.

Society Proceedings.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, November 6th, 1885.

T. G. RODDICK, M.D., PRESIDENT, IN THE CHAIR.

Double Ovariectomy.—DR. WM. GARDNER exhibited the tumors removed at one operation from a case of double ovarian disease. The patient had been under observation for a year, the tumors slowly increasing, evidently cystic—that on the left side causing a great deal of pain, and being situated low in the pelvis. The tumors were multilocular cystomata, of the size of a large infant's head. The left-sided tumor was intraligamentous, requiring enucleation from the broad ligament, and giving rise to very troublesome pelvic bleeding. The right tumor had a good pedicle and was secured by ligature without much difficulty. Over each tumor the Fallopian tube coursed, being much elongated and distended, sausage-like, all except a small part at the uterine end. The tubes, in parts, measured $1\frac{1}{4}$ inches in diameter. They were filled with fluid resembling that in the cysts. No trace of ovarian stroma could be found; still the woman had always menstruated regularly and profusely. Although the operation was a long one, the patient being over three hours under ether, she made a perfectly easy recovery, the temperature once only reaching $100\frac{1}{2}^{\circ}$.

Ovarian Tumor.—DR. TRENHOLME exhibited this specimen, which he had removed that morning from a woman, aged 42, who had suffered for about twelve years, and had been tapped eight times. There were a great many adhesions over the front, none behind. The cyst weighed 32 lbs., and was made up partly of hard nodular masses, feeling like scirrhus. Dr. Johnston was asked to examine these masses and report at next meeting.

Typical Case of Psoriasis.—DR. RODDICK brought this specimen, a boy aged 15, before the Society as being an unusually good example of this disease. All varieties were to be seen over his body and limbs. Three years ago this lad had been treated, with good effect, with chrysophanic ointment and arsenic, but of late had given up all treatment. The disease dates from about a month after he was revaccinated—that is, when about 7 or 8 years of age. Dr. Roddick knew of another similar case dating from vaccination, but said it was most probably a coincidence, not the cause.

DR. BLACKADER had observed several odd symptoms persisting after dermatitis, caused by vaccination.

Fatal Pulmonary Embolism, arising from simple femoral thrombosis.—DR. GEORGE ROSS exhibited the specimen. The heart and lungs had been removed together, and the right side of the heart and pulmonary artery laid open. The left branch of the latter was seen to be plugged by a thick fibrinous clot beginning an inch above the valves, the lower end lying loose in the main artery and for some distance curled back upon itself. Still nearer the heart, in fact almost touching the valves, lay a second loose clot of the same appearance, about three-quarters of an inch long. The clotting extended far into the lung, even to the small branches. The right branch and its divisions were quite similarly occupied by an extensive fibrinous deposit. The femoral vein was also shown, containing a clot several inches in length and extending a long way down the internal saphena.

The patient was a young woman who had presented the usual symptoms of a simple anæmia for some months, when she developed pain and swelling of the right leg. She was then admitted to the Montreal General Hospital under Dr. Ross, when the existence of femoral thrombosis was readily detected by the presence of a firm cord in the situation of the vessels. Her general condition was good, with the exception of a moderate degree of anæmia. One week after admission, after having passed a good night, she complained at 5 a.m. of suddenly feeling faint. This soon passed off, and nothing more was thought of it. The day nurse afterwards saw her during the forenoon lying in bed knitting as usual. At 12.45 p.m. she became suddenly breathless, panting and distressed. The house physician saw her at once, and gave stimulants, but at 1 p.m. she was dead. The occurrence of pulmonary embolism was immediately suspected. Dr. Ross remarked that, although very frequently meeting with femoral thrombosis, it was the first time he had ever observed this fatal accident following from it. It had been his misfortune, a short time since, to meet with a sudden death ten days after a natural confinement and an apparently perfectly natural puerperium. An autopsy in this case likewise showed the fatal result to have occurred from pulmonary embolism, as had been suggested—the source of the clot, the uterine sinuses. The present case was of interest, from the syncopal attack in the early morning, which, no doubt, was produced by the surprise of the heart at the arrival of the foreign body. He had been very much struck in both these cases by the great extent

of the clotting through the branches of the pulmonary artery, which must have taken time to form, although no pulmonary symptoms prevailed during that period.

DR. KENNEDY had also seen a case of sudden death take place on the thirteenth day after a natural delivery, and while apparently convalescing most satisfactorily. No autopsy was held, but death, no doubt, was caused by embolism.

Laceration of the Spleen; Splenectomy; Death.—The PRESIDENT showed some fragments of spleen which he had removed by operation from a man, the subject of a terrible accident.

DR. EBERTS, who accompanied the ambulance waggon, gave the particulars of the accident. He found the man lying on the deck of one of the ocean steamships, suffering from shock, almost pulseless, and cold. He learned that the man had been working in the hold, and that a bucket holding about ten hundred weight of coal fell on him. The bucket struck an obstacle in its descent, and had partly burst. A small wound was made in the left side, between the last rib and crest of ilium, probably from a splinter or loosened bolt.

DR. RODDICK said that on arriving at the hospital he found a portion of the omentum protruding through the wound in the side. He enlarged the opening and found internal bleeding; a piece of spleen was withdrawn, and it was found that the hemorrhage came from its torn surface. All the spleen was then removed and the pedicle tied. The kidney was found displaced and thought to be lacerated. The man died in five or six hours. Three or four ribs were broken and bent inwards, probably causing the lacerations.

DR. JOHNSTON, who performed the post-mortem, found about five ounces of blood in the abdomen and about as much in the pleura. The diaphragm, though scratched on its under surface, was not torn through.

Different views were taken by members as to the cause of the lacerations.

DR. WILKINS said he had seen in the hospital, three or four years ago, a case where a young man, from being thrown off the cars, had a kidney very much lacerated and his liver less so. All this without any external wound.

DR. GARDNER reminded Dr. Roddick that he (Dr. R.) had exhibited such a specimen some years ago to this Society. Laceration of the kidney was produced in an old lady who fell down stairs. No external wound was made.

The PRESIDENT then delivered an address on the past year's work. Dr. Roddick began by thanking the Society for the honor they had done him in electing him president for the second term. He referred to the deep interest he had always taken in the welfare of the Society, and spoke of its formation in 1870. Some of the earlier papers and discussions were very interesting, the older members of the profession being all at that time in the habit of attending the meetings and contributing papers. Reference was made to the fact that three of the former presidents and two secretaries had died during the brief period of existence of the Society. The present membership of the Society is 69, one only having joined during the year. The work done compares favorably with preceding years, although the average attendance has been small. The following papers were read during the year:—"Missed Abortion," Dr. Alloway; Sycosis, Dr. Wood; Six cases of Removal of Uterine Appendages, with results, Dr. Trenholme; Notes of two cases of Lead Poisoning, Dr. Mignault; Out-door Practice, Dr. R. MacDonnell; Hydrate of Chloral and Camphor as a Local Anæsthetic, Dr. Smith; Notes on the Diseases prevalent among the Indians, by Percy Matthews, M.R.C.S., Edin., read by Dr. Robt. Bell; Remarks by Dr. O. C. Edwards; Pulsating Empyema, Dr. Geo. Ross; Musculus Sternalis in Anencephalic Monsters, Dr. Shepherd; Antiseptic Midwifery, Dr. Armstrong; Partial Epilepsy, Dr. Mignault; Atmospheric Materies Morbi, Dr. Henry Howard; Comma Bacillus, Dr. McConnell; "Tetany," Dr. Stewart; Case of Extra-uterine Gestation treated by Faradization, Dr. Gardner; Notes on Gynæcology, Dr. Smith. Besides these, there were two very important special meetings held—one "to consider Dr. Tuke's Report on the Insane Asylums of the Province of Quebec"; the other "to discuss the proposed Public Health Bill for this Province, and also to make known a scheme for the management and prevention of contagious diseases, especially cholera." Many living specimens were exhibited, and some of the papers were illustrated in that way. The thanks of the Society are due to Dr. Sutherland and Dr. R. J. B. Howard for the admirable pathological demonstrations given during the year. The announcement was made that for the future Dr. W. G. Johnston would conduct this department of the proceedings, that gentleman's devotion to the subject of pathology being well known. In conclusion, the President congratulated the members on the progress which, as a Society, they had made, and pointed out the many advantages likely to accrue to both young and old in the profession by frequent attendance and constant participation in the debates of the Society.

Gunshot Wounds of the Testicles.—DR. BELL read a paper on two cases. (See page 334.)

The PRESIDENT said he had seen both these cases. In the first he believed the bullet burnt its track close to the urethra, which sloughed, and caused the leak five or six days after.

DR. GODFREY said he well remembered the case of a man under Dr. Stephenson's care in the hospital (1840), who had an injury to the scrotum, followed by erysipelas and sloughing away of all the integument. A consultation of the staff was held to see if castration ought to be performed. It was decided to try dressings of the old Edinburgh red wash. The testicles under this treatment became well covered with a good-looking scrotum.

DR. KENNEDY had seen a man who had been gored through the scrotum by a bull; a portion 4 by 3 inches was torn away. After bringing the rest together and sewing, it appeared almost as perfect as ever.

DR. CAMPBELL mentioned having seen a man with but one testicle and hair on his face only on that side. He had also seen a man with three testicles.

DR. ALLOWAY had a friend who, while fox-hunting, was thrown and had the whole scrotum bared from the testicles. He got a needle and thread from a farmer and stitched him up.

The PRESIDENT spoke of a case he had seen in hospital; the man had fallen from a height and been caught by a nail, tearing all the scrotum and skin of the penis away. By the aid of skin-grafting he made a good recovery.

Injuries to the Sternum.—DR. BLACKADER related two such cases. One, a boy aged 18, who, while exercising on the parallel bars, felt something in his chest give, and causing him to suddenly drop. After a fortnight's rest he went back to the gymnasium, and whilst doing a similar exercise again had suddenly to let go, with symptoms as before. This time he (Dr. B.) was consulted, and on examination found separation of the first and second pieces of the sternum. Dr. Roddick was also consulted in this case. The second case was that of a young married lady, aged 26, who had been hit by a tennis ball. Here the lower portion of the gladiolus was riding over the manubrium. The parts were painful and swollen. Plaster was applied and rest ordered.

Fracture of Clavicle with Emphysema.—DR. CAMPBELL said that three weeks ago he was sent to attend a coachman who had

gone to sleep on the seat of his brougham and had fallen off, striking his clavicle against one of the wheels. The parts about were greatly swollen and emphysematous. Fracture of the clavicle was easily made out, and it was thought at first it must have been broken. He was sent to hospital, where it was found that only the clavicle had been fractured.

The PRESIDENT said this was a rare complication, and could only be produced by direct violence, not by the usual fall on the head or shoulder.

Stated Meeting, November 20th, 1885.

T. G. RODDICK, M.D., PRESIDENT, IN THE CHAIR.

Parovarian Cyst.—DR. TRENHOLME shewed a cyst, weighing 55 pounds, removed by him from a woman aged 42 years. There were no adhesions, but the cyst was very vascular on its anterior surface; here also its walls were much thinner than posteriorly. Patient doing well.

DR. CAMPBELL read a paper on *Vaccination and Revaccination*. He attributed the cause of so many deaths occurring in French Canadians under ten years, during the present epidemic of smallpox in Montreal, to the fact that it is just ten years since the opposition to vaccination began. There was consequently a very large accumulation of unprotected material in a certain quarter of the city, and in that quarter smallpox raged fiercely. He then took up the question of affinity between human smallpox and cow smallpox, and proceeded to argue that they were one and the same disease. He showed that variolous matter had been in numerous cases inoculated on the cow, and the resulting matter retransmitted to the human subject in many thousands of cases, giving vesicles in all respects similar to what is known as "Jennerian," and with full protective influence against smallpox. The comparative value of humanized and bovine vaccine was fully gone into. Dr. Campbell stated that till the present epidemic he had always used the dry, humanized crust or liquid humanized lymph, and was satisfied with the result, not having had in over twenty years a case of smallpox in any child thus vaccinated with humanized lymph. For the last three months he had employed bovine matter, and his experience was that it was very unreliable—the failures being numerous. He, however, repeated the operation many times,

and this perseverance resulted eventually in excellent success. He assured the Society that after as many as ten failures, the eleventh time had succeeded and good revaccination taken place. Having medical charge of the Infantry School Corps station in the barracks at St. Johns, he had used bovine lymph on the men, and in a force of one hundred and twenty-three he had, after numerous repetitions, succeeded in having good results in one hundred and twenty. In private practice such results could not have been obtained, for the patients would not have submitted. Humanized lymph does not require such perseverance, and is therefore, he believed, preferable. The paper was a lengthy one, and discussed the question fully.

Discussion.—DR. REED thought the weight of evidence went to show that vaccine was a germ *sui generis*, cultivable on the human and bovine species, and referred to the report of the Lyonnese Commission, and to the fact that Martin of Boston, after prolonged trial, had given up the attempt to make vaccine by variolous inoculation of animals. The Board of Health of Montreal had already furnished 20,000 points of Boston virus to its officers for the present epidemic. Would prefer arm-to-arm vaccination, but the public prejudice is strongly in favor of bovine vaccine. The experiences of this year indicate that, in presence of contagion, revaccination should be practised without regard to lapse of time or a previous attack of smallpox, as several cases of varioloid had been observed in the city, which had occurred within a few months of successful vaccination with two marks, and also several cases of second attacks of smallpox.

DR. MCCONNELL remarked that he could not agree with Dr. Campbell's conclusions that *vaccinia* was *variola* modified by passing through the heifer. The weight of evidence was mostly in favor of the view that they are distinct affections. Dr. McConnell spoke of the unreliability, in his experience, of much of the bovine lymph supplied during the present epidemic; it failed more often than it succeeded, and in many cases where the virus seemed to gain a foothold a "raspberry excrescence" was the result, which was doubtless only a local irritation of the skin, appearing sometimes ten days or a fortnight after vaccination, and affording no protection whatever against smallpox. From the facts that the points became useless in a week or two, while vaccine crusts will retain their infective properties for months, or even years, there would seem to be a difference in power not easy to explain. If the action of the virus depends on a germ, perhaps we have it in

the spore condition in the crust, while it may be in a growing condition, if taken from the vesicles about the eighth day; and being, in the case of bovine lymph, propagated continually from vesicles, circumstances not well understood may have led to the attenuation so evident in much of the bovine lymph supplied him. Dr. McConnell had, during the greater part of the epidemic, used humanized lymph, and had very few failures and a much more typical vaccinia, and had seen no evil results occurring in those vaccinated (25,000). From one to two hundred persons might be vaccinated from a single good crust.

DR. J. J. GARDNER, house surgeon to the Protestant Civic Hospital, said he had had several patients in the hospital with smallpox who had been recently successfully vaccinated. One, a young girl about ten years of age, came in with two or three primary marks and two revaccination marks from a vaccination performed two months previously. She had a light attack of smallpox. A young man aged twenty-five came in with hemorrhagic smallpox, and died in a few days; he also had primary marks and marks from a successful vaccination performed two months previously. Dr. Gardner intends writing out a complete report of such cases.

DR. KENNEDY said he had used humanized vaccine for the past ten years from the same strain, and it always gave satisfaction. During this epidemic his supply gave out, and he was forced to use the bovine lymph, often producing a spurious "take," looking like a strawberry; still oftener, it would not take at all. He found it almost impossible to vaccinate infants with the animal lymph. He had performed *successful vaccinations* with a crust *a year old*. He mentioned having seen two young girls, sisters, both pitted from attacks of smallpox ten years ago. Took smallpox again this fall. He was sent to attend one of them, and finding she had smallpox immediately vaccinated her sister, who, however, must have had the disease already, as the eruption came on seven days later. Dr. Kennedy believes the vaccination lowered her attack, as her illness was much lighter than her sister's.

DR. MILLS said that the history of bacteriology went to prove that the quantity of germs thrown into the system the greater the constitutional effects, therefore he would vaccinate in several places.

Many other of the members gave it as their experience that the animal lymph was very unsatisfactory in its results, and spoke of the almost impossibility to vaccinate young infants with it.

DR. RODDICK said that the vaccinator, with his unclean lancet, might be the cause of some of the very highly inflamed arms spoken of.

DR. STEWART exhibited a man, aged thirty, who has been suffering for about six months with the prominent symptoms of lateral sclerosis. The case was looked upon as of protopathic origin.

Stated Meeting, Dec. 4, 1885.

T. G. RODDICK, M.D., PRESIDENT, IN THE CHAIR.

Black Gallstones.—DR. MACDONNELL exhibited a number of gallstones which had been removed from a dissecting-room subject. The stones were of a jet-black color, and resembled peppercorns in shape and size. When dry they were very friable, breaking with a resinous fracture and being easily reduced to a powder resembling India ink. This kind of gallstones, though rarely met with, has been described by Budd, who gives an excellent colored illustration of them. They do not contain cholesterine, but are made up of bile pigment and lime.

Appendix Vermiformis communicating with the Ileum.—DR. MACDONNELL also exhibited a specimen of appendix vermiformis which had formed a communication with the ileum about an inch from the valve. A probe could be passed through the appendix into the ileum. It was thought that the attachment to, and communication with, the ileum was due to a concretion which had previously existed in the appendix and had caused adhesive inflammation; as the specimen was taken from a dissecting-room subject, there was no history.

Thrombosis in the left ventricle of the Heart.—DR. GEORGE ROSS showed a heart which had been removed by Dr. Johnston from a patient who lately died in the General Hospital. Both sides of the heart were greatly distended, and there was marked bulging of the wall of the left ventricle just above the apex. The cavities contained soft blood-clots. There was no clot in the pulmonary artery or its branches. On opening the left ventricle a firm, decolorized and apparently organized thrombus was found filling the spaces between the columnæ carneæ in the vicinity of the septum and projecting slightly into the cavity at a point corresponding to the bulging previously mentioned. The thickness of the thrombus exceeded that of the ventricular wall, which in places was reduced to one-fifth of an inch. A space between the thrombus and the heart wall was filled with a choco-

late-brown fluid and the endocardium seemed to have disappeared. At some points the heart-muscle was pale and in part fibroid. A small, firm, decolorized clot was also seen lying loosely behind the left coronary segment of the aortic valve: from this was prolonged a clot which completely plugged the left coronary artery. A small, firm clot filled the left auricle. Valves normal. Dr. Ross remarked that the patient was a strong, healthy girl, about 25 years of age, who came into the hospital to be treated for an ulcer of the leg, which was supposed to be of syphilitic origin. Suddenly she was seized with a violent pain in the left side of chest and great difficulty of breathing; her pulse was almost imperceptible at the wrist, and she was in great distress. The dyspnoea and pain grew worse, and the patient gradually sank and died five days after the first seizure. Dr. Ross at first thought it was a case of pulmonary embolism, but was now at some loss to account for the symptoms.

DR. ARMSTRONG suggested that the clotting of the blood in the left coronary artery and the consequent loss of nutrition might, perhaps, account for the symptoms observed before death.

DR. MILLS said that possibly the plugging of the coronary artery might explain the other clots and the peculiar symptoms, the lower clots being formed by the weakening of the heart's action due to loss of nutrition from plugging of the left coronary artery. In such an enfeebled heart a murmur could scarcely be expected to be heard, the obstruction to circulation and interference with nutrition giving rise to pain and disturbance of action of the pneumogastrics. Dr. Mills, in conclusion, remarked that there were other cases reported with the same symptoms, due to plugging of the coronary artery alone.

Encysted Calculus of the Bladder.—DR. SUTHERLAND showed for Dr. A. E. Malloch, of Hamilton, Ont., a bladder with an encysted calculus. Dr. Malloch's report was as follows: J. C., aged 76, had cystitis of one year's standing, due to catheterization, necessitated by retention of urine, the result of hypertrophy of the prostate gland. The bladder had been sounded for stone on two occasions, and explored with the finger by an incision made in the perineum, but no stone was discovered; the bladder was drained through the perineal incision, but no appreciable relief followed, and the man died four days after. On examining the bladder post-mortem, its coats were found to be much hypertrophied, and the prostate of large size. The summit presented a diverticulum a third the size of the whole bladder, and contained a calculus the size of a small marble, and composed of

triple phosphates. The communication between the bladder and diverticulum was of small size, and would only admit a lead-pencil.

Elephantiasis of the Leg.—DR. SUTHERLAND exhibited a remarkable specimen of elephantiasis of the left leg, which had been sent to the museum of McGill University by Drs Gooding and Greaves of Barbadoes. The leg had been removed from a negro, aged 23, who had suffered since the age of 11 from attacks of fever. After each attack the leg increased in size, until, from the great inconvenience it caused him, he decided to have it amputated. The enlargement commencing about three inches below the knee-joint, it was decided by Drs. Gooding and Greaves to preserve the joint. Whilst amputating, but little blood was lost, but some four pints of lymph escaped. The man survived the operation only nine days, dying of pyæmia. The leg, after being preserved some time in alcohol, measures around the calf $25\frac{1}{2}$ inches, instep 21 inches.

Fracture of the Spine.—DR. SHEPHERD presented a specimen of fracture of the spine, which had been removed several days before by Dr. W. Johnston from a patient who had been under his care some three years before. The man, three winters ago, whilst cleaning the snow from the roof of a house, missed his footing, and fell to the pavement below, a distance of some fifty feet. He was immediately brought to hospital, and, on examination, it was found there was a fracture of the back in the lumbar region. There were great swelling and deformity of the parts and complete paralysis of sensation and motion of legs. He had also incontinence of urine. The patient remained in hospital some months, regaining, after a few weeks, partial sensation and motion. The deformity very much lessened after the effusion was absorbed. He even took a situation as coachman for some time after leaving hospital. Last spring he hired himself out as assistant gardener, and said, whilst digging one day, felt something give way. Then he had severe pain and some swelling at site of the old injury, and lost the power to use his leg. He was brought to hospital, and it was found there were some swelling and great tenderness at site of old injury in lumbar region, complete loss of sensation, and but little power of motion in lower extremities. After being in hospital a week or two, he developed phthisical symptoms, and was transferred to the medical wards. He died of phthisis a few days ago, and at the post-mortem the vertebræ of the lumbar and lower dorsal regions were removed. The specimen showed slight left lateral curvature, with moderate angular curvature opposite the second

lumbar vertebra. On making a vertical section, the body of the second lumbar vertebra was seen to be partially absorbed, and a ring of bone encroached upon the cord at this spot. There was a fracture of the spines of the second and third lumbar, and the intervertebral substance between these two vertebræ had completely disappeared. There appeared to have been a fracture, also, of the lamina of the second lumbar. The cord and membranes disclosed nothing to the naked eye, and were removed for further examination.

Cerebral Syphilis.—DR. GEO. ROSS then read a paper on this subject. (See page 326.)

DR. HENRY HOWARD, after complimenting the reader of the paper on the excellent manner the cases had been reported, stated that he had seen many obscure affections of the brain due to syphilis, and had seen many apparently hopeless cases recover after anti-syphilitic treatment. In many fatal cases no cause is discovered after death—that is, there is no gross lesion. He believed that, in the future, changes will be discovered by the aid of the microscope which will fully explain everything. What is necessary is a more exact knowledge of the histological anatomy of the brain, and then the pathological condition will be more readily recognized. Even now, brains formerly considered normal are found, on accurate microscopical examination, to have undergone distinct pathological changes, especially in and about the bloodvessels.

DR. STEWART considered that cerebral syphilitic lesions are much better treated by mercury than by potassium iodide; mercury is an antidote to syphilis, potassium iodide is not. Mercury should first be tried, and inunction is the best method; in this way the remedy is introduced more effectively, even than by hypodermic injection.

DR. A. LAPHORN SMITH related a case of epilepsy where the post-mortem revealed a syphilitic gumma in the brain. There was no history of syphilis.

DR. F. W. CAMPBELL said he had some experience with inunction in the treatment of syphilis, and he had found that at times it is as difficult to get the patient under the influence of mercury by this method, as when mercury is given by the mouth; he had seen some patients salivated by five grains of blue pill.

DR. SHEPHERD, in speaking of the difficulty of getting a history in many cases of suspected syphilis, mentioned several cases in which there were well-marked tertiary symptoms, but

no history of primary or secondary manifestations. In one case, that of a medical man, secondary syphilis developed, and absolutely no history of primary sore could be obtained. In tertiary syphilis, he advised first the use of potassium iodide ; if that failed, then mercury ; and if mercury failed, then a combination of the two. He mentioned also that he himself is easily salivated by five grains of blue pill, and he knew of several like cases, and asked whether such a small amount of mercury is efficient to act as an antidote to the syphilitic poison. He thought not.

DR. WILKINS regretted sufficient notice of meeting had not been given to afford him time to look up his cases of cerebral syphilis, of which he had several. Although pain in the head is usually present in cases of this kind, he could call to mind two well marked cases of this disease in which the absence of pain was a prominent feature. One of these cases had been under observation for several years, and was attended with repeated attacks of paralysis without loss of consciousness, yielding to treatment with iodide of potassium. As soon as symptoms improved he discontinued treatment, and in the course of a few months was again attacked with similar symptoms, again yielding to treatment ; but he did not keep it up. This was repeated three or four times, some paresis remaining permanent. Another case was one in which the symptoms set in with stupor, but without loss of consciousness. This state was quickly followed by epileptiform convulsions coming on with but slight intervals, and lasting in all several hours. He improved rapidly under large doses of iodide of potassium. Both patients stated that they were not troubled with headache. From the speedy action of the iodide, Dr. Wilkins thought these might belong to that class of cases in which, post-mortem, no gross lesion was perceptible, but that the microscope revealed neoplasms affecting bloodvessels, narrowing their calibre, limiting or cutting off the supply to certain portions of the brain, and thus accounting for the motor symptoms that were present.

DR. ALLOWAY reported a case of epilepsy, due to syphilis, cured by large doses of potassium iodide.

DR. RODDICK said he had treated the second case spoken of by Dr. Wilkins, six years ago, for the primary sore. He had always treated him since ; here iodide of potassium always did good. Dr. Roddick mentioned that urethral chancres were not always recognized as such, but most frequently were treated as cases of gonorrhoea. Secondary symptoms coming on, the

physician was often puzzled. Some of the syphilitic lesions seen in adults were due undoubtedly to hereditary syphilis.

DR. ROSS, in reply, said that pain in the head, although a prominent symptom in his cases, he should by no means always expect to find. No one symptom is pathognomonic of cerebral syphilis; but pain comes near to being so, especially if it be nocturnal. Many cases are most obscure, and no history of syphilis can be obtained.

(From our own Correspondent.)

CHATHAM MEDICAL AND SURGICAL SOCIETY.

Stated Meeting, Dec. 4th, 1885.

G. H. TYE, M.D., IN THE CHAIR.

Hæmorrhage from a Wound of the Cervix Uteri, simulating an impending abortion.—DR. McKEOUGH related a case of a woman who had had two previous miscarriages, and who, he supposed, was threatened with another. The patient was between three and four months pregnant, complained of some pain in the pelvis, which, however, was not intermittent, and, judging from the condition of her clothes and bed, there had been considerable loss of blood. Pulse was quick and feeble. Her countenance was pale and anxious. Numerous clots were removed from the vagina, which was afterwards tamponed with pledgets of cotton-wool soaked in boro-glyceride. The following day the patient admitted that she had attempted to produce an abortion by violence, a large knitting-needle and a catheter being the implements used. After the tampon was removed, an examination of the cervix was made, and revealed an old bilateral laceration. In the posterior everted lip was a recent deep, ragged wound, to which a clot was attached. Its removal caused a fresh spurt of blood, which was controlled by pressure. This occurred six weeks ago, and there have been no symptoms since of a premature expulsion of the fœtus.

Hæmorrhage from the sac of a Spina Bifida, resembling symptoms of Placenta Prævia.—DR. TYE reported a case of a woman to whom he was called recently, and found in labor; pains were coming regularly, and with each contraction of the uterus there was quite a profuse gush of blood. The accouchement had commenced with the escape of a very large quantity of water, which was immediately followed by the loss of a considerable amount of blood. The os was not sufficiently dilated to make a diagnosis positive, but the doctor thought it might be

a case of placenta prævia. As labor progressed and the os dilated, an acephalous monster was diagnosed. The foetus, on being expelled, was found, besides being acephalous and having rudimentary genital organs, to have a large spina bifida, extending from the neck to the sacrum, the sac being ruptured. To the spinal openings large clots of blood were attached, and over the interior of the sac small clots also adhered. The placenta came away in half an hour with a very moderate amount of hæmorrhage. The child was exsanguine, but the mother showed no symptoms of loss of blood.

Multiple Sarcoma.—DR. HOLMES read the history of a case of multiple sarcoma, prefacing it with a few remarks upon this form of neoplasm. He first pointed out the distinguishing features of these tumors, both from a histological and clinical standpoint. Referring to their microscopical characteristics, he described the usually accepted divisions of round-celled, spindle-celled and giant-celled or myeloid sarcomata. Of all tumors that affect the bones, these were by far the most common, and they showed a decided preference for the epiphysal ends. In diagnosing them, they were to be distinguished from carcinomata, benign growths (especially the enchondromata), syphilitic enlargements, osteo-myelitis, and white swelling. From syphilitic growths they could be distinguished by the history of the action of specific treatment; carcinomata were generally more rapid in their growth, the lymphatics are more frequently affected, and the cachexia more marked; white swelling usually occurs in scrofulous subjects, interferes with the function of the joint, is liable to suppurate, skin is glossy and tense, and the superficial veins often enlarged, temperature elevated, more painful, and is more or less amenable to treatment. While a sarcoma may pulsate, and has a liability to spontaneous fracture, it does not interfere with movement of joint, etc. So long as the investing capsule of a sarcoma remains intact, the enlargement simply encroaches upon adjacent parts, but as soon as the capsule ruptures, contiguous structures become involved, and systemic infection takes place more or less rapidly through the blood-vessels. Traumatism is the most fruitful cause of primary sarcoma, about half the cases being traceable to blows, bruises, etc. Complete early extirpation offers the best chance of cure. If the tumor be so situated as to admit of amputation, it is wise to remove the limb as high as is compatible with safety to the patient. The case was that of a boy, aged 17, with a good family history. A tumor, neither painful nor tender, appeared upon the radial side of the palm of the hand, and grew pretty rapidly; it was removed four

months after it was first noted. The wound seems to have done well for a week after its removal, when the tumor reappeared and grew rapidly. The following week several tumors appeared upon different parts of the body, and when the case was first seen by Dr. Holmes these tumors numbered twelve or fourteen, and were situated chiefly upon the arms, neck and back; those on the back were arranged in pairs along the spine. The tumor and suppurating wound on his hand eventually became very painful; to relieve him of the pain, and to rid him of the offensiveness of the discharge, which gave rise to a septic fever, the hand was amputated. The operation gave him great relief, and for a time his downward progress seemed arrested, but he subsequently lost ground, and died eight months after the first appearance of the primary tumor.

Quite an interesting discussion followed the reading of this paper, in which Drs. Hall, McKeough, Murphy, Rutherford, and the Chairman took part. The subject was considered eminently practical, notwithstanding that cases of this kind were not frequently seen by country practitioners, still, when they did occur, the necessity of recognizing them at once was of the utmost importance. If a thorough knowledge of these neoplasms were more general, their recognition in an early period of their growth would be more frequent, and lives might be saved which are now sacrificed.

Pharmaceutical Notes.—DR. HALL showed a preparation of iron that he had manufactured himself and found serviceable in cases where the tincture was inadmissible. A solution of 544 grs. of citric acid in 1 oz. of water is heated over a water-bath and brought to boiling point; then 1 oz. of a solution of liq. ferri perchlor. (1 to 3) is added, afterwards 1000 grains of carb. sodæ. It is then allowed to cool, and proof spirits added to make 4 oz. He claimed that it was almost tasteless, permanent, alkaline, miscible with water, and of the same strength as the tincture. It is cheaper than dialyzed iron, and mixes better with water, while it agrees with the most delicate stomachs. Dr. Hall also gave some practical information regarding the preparation of suppositories. He gave the following mode of preparing them, which, after much experience, he considered the best and simplest for physicians who had to manufacture their own: Mix the necessary ingredients together with a little water, then grate over the mass the desired quantity of *öl. theobroma*, rubbing up the mass at the same time with a pestle until all the ingredients are well incorporated. Shape with hand and spatula, which is preferable to moulds. Use Canada Balsam if they require any adhesive material.

CANADA

Medical and Surgical Journal.

MONTREAL, JANUARY, 1886.

THE LONGUE POINTE ASYLUM.

The visit of Dr. Tuke to this asylum, the startling report he furnished of the dreadful abuses existing there, the excitement produced throughout the country by these revelations, the urgent call to the Government for an abatement of such crying evils—these things surely cannot yet be forgotten. The public, indeed, very soon lose sight of any philanthropic object when the press cease writing upon it; but we do believe that the attention of the entire community was so forcibly directed to the disgraceful state of affairs in Longue Pointe Asylum that a strong interest is still felt in knowing what progress (?) is being made towards ameliorating the condition of its unfortunate inmates. After the exposure by Dr. Tuke, the Provincial Government took the matter up and passed an Act in June 1884, the most important provision of which consisted in placing the entire medical management of the institution in the hands of a medical board, to be appointed by the Government. This board was to govern the admission and discharge of all patients, to be responsible for the classification of patients, to make all rules and regulations for their moral and physical management, and to assume the medical treatment of all cases. Under this act, Drs. Perrault and Duquet were nominated to act with Dr. Henry Howard. As soon, however, as this was done, the “fair Pharaoh whose heart was hardened” appointed Drs. Durocher and Prieur to perform the duties above detailed. When the Government officers presented themselves in order to carry out the instructions of the Executive, they were politely informed that Sister Teresa had no use for them; she had

medical men of her own. Hard as it may be to credit, it is nevertheless true that, in the face of the Act quoted, for months past, the entire management of this great Government institution, containing nearly one thousand lunatics, has been looked after by two nominees of the nuns themselves, and the Government has looked helplessly on, quietly submitting to be openly defied by this bold Mother Superior. The nuns claim that they have the right to appoint their own medical attendants under their contract. We cannot but believe that the law officers of the Crown are satisfied that the Provincial Parliament had power to pass the Act of June 1884. If so, it is clearly the duty of the Government to see that its provisions are carried into effect, and, in the interests of humanity, we call upon it to do so. The law was passed in response to a great outcry on the part of the whole people, and because the necessity for such legislation had become imperative. How is it that any individual or number of individuals can thus set themselves above all law, and above the deliberate wishes of the people as expressed by their parliamentary representatives? How is it that no reform whatever can be carried out in the asylums of this province? Dr. Tuke found us in this respect a hundred years behind European and American countries, and perhaps equally so behind our very neighbor of Ontario. Are we forever to remain so? Are we forever to be a byword and a disgrace amongst peoples? If not, let the Government exert its strong arm, and let us for once see vigorous action taken to enforce the right.

THE INTERNATIONAL CONGRESS.—It is well known in this country that Dr. R. P. Howard, Dean of the Medical Faculty of McGill University, was appointed by the original committee of the Congress one of its Vice-Presidents. It was a graceful act on the part of our neighbors to place a leading member of the Canadian profession in this post of honor. When the trouble arose following upon the meetings of the American Medical Association at New Orleans and of the newly-appointed committee at Chicago, no action was immediately taken by Dr. Howard or by any of those Canadians appointed upon the sec-

tions. It was well understood, however, that they did not approve of the ousting of the old committee or the action taken by the new. Dr. Howard, when directly appealed to to state whether he accepted the position, felt obliged to send in his resignation, which he did some weeks ago.

—It is now some time since a committee of the Board of Health was named to enquire into the origin and early spread of the smallpox in this city. This is a matter of great general importance, and one on which we have already expressed an opinion. We hope that this committee is at work and will shortly give us a full report. All the facts of the early stages of the outbreak should be clearly stated, and the lesson might then be learnt how, under similar circumstances, to avoid such a dire calamity as this year befel our city.

SMALLPOX AT LONGUE POINTE.—Smallpox broke out some weeks ago at Longue Pointe Insane Asylum—how many weeks ago we do not know, information on points of that kind being unattainable. There are eighteen cases and there have been four deaths. We have been informed that all the latter were unvaccinated. Three months ago, the nuns were ordered by the Central Board of Health to have the inmates vaccinated. It seems, however, that nothing effectual was done until the outbreak, months afterwards. The work was then performed by the physicians in the employ of the nuns—the Lady Superioress, the now-becoming-well-known Sister Teresa, having snapped her fingers at the law, the Government, the Central Board, and every other body, organization or individual claiming to exercise any authority over her. It remains to be seen how quietly our good Government will sit under this new affront—an affront offered both directly to itself and also to the Provincial Board, whose mandates it is bound to have enforced.

THE INSANE IN THE UNITED STATES AND CANADA.—We have received Dr. Tuke's latest book bearing this title, and have derived much profit from its perusal. When the author came to this country with the British Association, his chief object was to familiarize himself with the system under which the insane were managed in these Provinces and in the various States of the

Union. A lifelong alienist, whose name is a household word amongst the profession, and whose opinions command all the respect such a record deserves, every facility was afforded him for the accomplishment of his purpose. Canada was visited, and, finding in this Province a state of things calling loudly for immediate reform, he published in this JOURNAL (subsequently copied by the daily press) an account of what he saw and what he would suggest to remedy the evils only too evident. This narrative is included in the present work, together with similar details concerning the asylums of Ontario. These are of the deepest interest to the Canadian profession, and should be widely read. The bulk of the volume, however, is composed of Dr. Tuke's observations on the American asylums, with some comparisons between the treatment there and in model European institutions. It will be found that the scrutiny shows nothing of which the people of the United States need be ashamed. Indeed, in this respect, their civilization reaches a high order. We hope that, as asylum matters here seem likely to again attract considerable public attention, Dr. Tuke's book will be studied by every physician, for it contains the thoughtful statements of one who is, with reason, looked upon as the most experienced and the most reliable authority in England on all subjects connected with asylum management.

THE SOUNDS OF THE HEART.

It has been urged that the heart contraction, being a sort of single muscular twitch, could not, in consequence, produce a sound, for it was known that the voluntary contraction of a skeletal muscle caused a sound corresponding to 36-40 vibrations per second; and this latter, indeed, was considered as evidence that a "tetanus" or summation of single contractions was always produced when a voluntary muscle contracted.

Prof. G. Yeo and Mr. Herroun, working in concert, have greatly shaken this doctrine. They found, on submitting a voluntary muscle to stimuli, interrupted 10, 15, 20 or 25 times a second, the "susurrus" arising was in each instance the same, and that this corresponds to the so-called muscle tone. It would appear from this, then, that the tone heard over a contracting

muscle does not correspond necessarily to any *definite* number of vibrations of the muscle, but to certain regular or irregular motions of the same, giving rise to vibrations of the membrana tympani. If this be true, one objection to the first sound of the heart being of muscular origin is removed.

Prof. Yeo and Dr. Barrett have instituted some experiments at King's College physiological laboratory in order to ascertain whether Halford's statement that the first sound of the heart ceases when the great veins of the heart are clamped is true. These observers, using a binaural stethoscope, after opening the chest of an animal (dog), exposing the heart, compressing the great veins, and allowing the heart to empty itself, still heard the first sound, though less forcibly than before. The heart was then removed from the body and held in the hollow of the hand, surrounded by warm weak salt solution. It beat vigorously and the first sound could be heard fairly well. Again, all but the apex was cut away; the tip of the forefinger was placed in its cavity (left ventricle), and a stethoscope applied. Still a sound corresponding to the first could be heard.

Prof. Yeo attempted to demonstrate the above before the Physiological Society of England, and while several observers agreed as to the identity of the sounds, some, including one able investigator, objected to the method as fallacious.

It is plain that before long we may expect an improved heart physiology.

ANNUAL DINNER OF MCGILL MEDICAL UNDERGRADUATES.

The medical undergraduates, with the professors and benefactors of the University as their guests, assembled in the Ladies' Ordinary of the Windsor, Dec. 3rd, to exchange mutual felicitations on the occasion of their annual dinner. The room was tastefully decorated and the tables ornamented with flowers and plants. The attendance of students was large, and the dinner altogether an enjoyable event.

Mr. R. A. Kennedy, B.A. '86, occupied the chair. On his right were seated Dr. R. P. Howard (Dean), Prof. Johnson, Prof. Bovey, Mr. John Dougall, Prof. Girdwood, Dr. Munro, Prof. Stewart, Prof. Wilkins, and Dr. T. Wesley Mills. On the left were the Hon. Justice Torrance, Mr. Andrew Robertson, Mr. G. W. Stephens, M.P.P., Dr. Anderson (U.S. Consu

General), Dr. McEachran, Dr. Roddick, Dr. Shepherd, Prof. McLeod, Dr. R. L. MacDonnell, Mr. Therrien, Victoria University, Dr. Rodger, Dr. Ruttan, Mr. McVety, Kingston; Mr. Dickson, Toronto, Mr. Lemming, Toronto, and Mr. Longeway, Bishop's College.

The vice-chairmen were Messrs. W. J. McCuaig, T. J. Norman, and J. G. McCarthy.

Letters of regret were read from the Governor-General, Lieut. Governor Masson, the Dean of Trinity College, Toronto, and several others.

When the cloth had been removed,

THE CHAIRMAN extended to the Dean and guests the welcome of the medical undergraduates. It was the fourth annual dinner at which the students and professors had met together around the same festive board, and his only regret was that many of those who had been invited were unable to avail of the invitation. He proposed the toasts of "the Queen," "the Governor-General," and "the Lieutenant-Governor," which were loyally and enthusiastically received.

MR. T. G. MCGANNON, in proposing the toast of "the President of the United States," said that the people of Canada sympathize with the people of the United States in the loss they had sustained through the death of Vice-President Hendricks. He referred to the amicable relations which existed between Canada and the United States; and he trusted that the good feeling would long continue.

DR. ANDERSON, Consul-General of the United States, responded. He said that these manifestations of such great good will on the part of Canadians for the President of the United States was most gratifying, and if he were not in an official position he might think that the friendly feelings to which the proposer of the toast referred might become so strong that Canadians might some day put it at the head of the list without any fear of disloyalty. Referring to the smallpox epidemic, he said that soon after its appearance in Montreal the edict went forth from Washington that travellers from Montreal should be quarantined. He thought that after this extreme measure the toast of "the President" would be coldly received, but he found that the toast was so well received at the dinner to the gallant Col. Straubenzee, that it looked as if a portion of a fourth of July audience had broken loose in the banquet hall of the Windsor. (Laughter.) He had continued to find the enthusiasm manifested at several dinners since then, and he was deeply thankful on behalf of the Chief Magistrate of the republic for the evidence of good feeling. (Applause.)

MR. ORROR proposed the toast of "Our University." He referred to the high status of McGill amongst the educational institutions of the world.

PROF. JOHNSON, in the absence of Principal Dawson, replied. With the exception, said the Professor, of the Nova Scotia University, McGill was the oldest university in Canada, and it therefore merited in some degree the affectionate term of "Old McGill." But although McGill was somewhat old in years it was young in vigour and young enough to make strides in progress, and McGill was making progress thanks to one generous benefactor, and, with the assistance of others, a splendid addition had been made this year to the medical school. He was glad to find that, in spite of the fear of the smallpox epidemic,

the attendance of students was larger this year than any other—numbering, he believed, over 500. But the progress noticeable in the interior of the College was even more gratifying. Formerly the students of one faculty hardly knew the students of another, but now all had extensive opportunities of social intercourse—a matter which was of great importance to the University and to the students themselves. There were now more students who went from arts to medicine than formerly. But there was yet a great field of progress before the University, and this was all the more apparent when they saw the munificent donations for university purposes from private individuals in the adjoining states. Only very recently it was announced that one rich man had given about \$20,000,000 for a university in California. This might seem an enormous sum, but it was nothing compared to the endowments of Oxford, and yet Oxford needed more money. The people of Montreal were, indeed, not behindhand in princely munificence to McGill, but he mentioned these facts to show that every penny that could be obtained for the University could be well expended in promoting the interests of education in Montreal and in Canada.—(Applause.)

HON. JUSTICE TORRANCE, one of the governors of the University, also responded. He was an old student himself, having begun his University career over fifty years ago. He knew something of medical students, for he was in Edinburgh University himself, and he had hearty sympathy with the medical undergraduates. To the young men he would say, "Do not be in too great a hurry for success, but stick to the ship, and some day you will be wanted." He would also remind them of the words of Astley Cooper, "Do justice to your profession, and one day, rely upon it, your profession will do justice to you." In conclusion, the Judge believed that he could not do better than remind the students of the words of a celebrated Frenchman, "You must never feel discouraged; success will come suddenly." (Applause.)

MR. W. D. STEWART proposed the toast of "Our Benefactors." No toast, he said, should be more cordially received by the students of McGill, for the gathering around the festive board that evening was indirectly due to the liberality of "our benefactors." To them was also due the prestige of McGill which attracted students from British Columbia to Newfoundland, and even from England. The princely generosity of Donald A. Smith to McGill would be remembered as long as there was an educational establishment in Canada, and in the days to come those whose names were associated with his would be no less honored and respected. (Applause.)

MR. G. W. STEPHENS, M.P.P., in replying to the toast, referred to the time in the history of McGill College medical dinners when the annual banquet was held in the second story of a grocery store on St. Urbain street, and when the *menu* was grilled bones with plenty of pepper and a glass of beer. (Laughter.) McGill was represented in all parts of the globe by active, able and intelligent men, and from the past records of the College he was sure that the students of the present day would distinguish themselves as those of the past had done. On behalf of the benefactors, he assured the students of their interest and anxiety for their welfare. They felt, however, that in giving donations they performed the least part of the work, for were it not for the Dean and men like him who preceded him, McGill would not occupy the high position it did to-day. (Applause.)

DR. McEACHRAN embraced the opportunity to reply to the toast, not as a benefactor, but with a sense of obligation for the benefits which the profession and the Veterinary College derived from McGill University. He was proud of the gradually growing mutual friendship

and esteem between the medical and veterinary professions. He believed there was no profession which received less remuneration for its services than the medical, considering the time, the care and the study it required, but he trusted that the *alumni* of McGill would always look to the high motive of benefiting their fellow man rather than of making money. (Applause.) If this principle were carried out, and the work honestly and conscientiously performed, then; in the words quoted by Judge Torrance, success would come some day, and, perhaps, suddenly. (Applause.)

MR. J. A. PORTER proposed the toast of "the Dean and Professors," which was cordially received. He referred to the kindly interest taken by the professors and the students, and the esteem of the students for their worthy Dean and professors.

DR. HOWARD, Dean of the Faculty, who was heartily greeted, responded. He said he had always been a medical student, and he hoped always to be a medical student, and nowhere did he feel more at home than at those annual dinners. The professors felt that they had the regard as well as the confidence of their students, and unless they felt this many would disregard the arduous work of teaching and apply themselves to the more lucrative one of practising their profession. The sacrifices made by the professors implied a love of work, and to love the work they must love the young men amongst whom they worked. It was a feeling of pride to the professors to know that they were educating young men into one of the most noble professions, and he believed it was admitted on all sides that the students loved the professors and that the professors loved the students. (Applause.) He spoke the sentiments of every professor present when he said that the professors accepted the toast in the spirit of affection with which it had been tendered. Referring to the changes which had taken place in the medical staff of the University, he said that out of what seemed to be a great evil had arisen a great good, for the one department had been enlarged into three departments, and in the enlarged building the new teachers, he was glad to say, were doing excellent work. (Applause.)

DR. GIRDWOOD, replying, said he was deeply grateful for the enthusiasm with which the toast had been received, and he took it as an evidence of the respect and esteem which the McGill students always entertained for their professors. Whatever might be said of the professors and the benefactors of McGill, yet it was the students who made the University and who carried its good name and prestige all over the world.

Prof. Roddick, Prof. Stewart, Prof. Shepherd, Prof. Wilkins, Dr. Mills and Dr. Ruttan also responded. They referred to the good feeling between the professors and the students, and expressed much pleasure at meeting their pupils around the same table.

MR. J. F. WILLIAMS proposed "the General Hospital," coupled with the name of Mr. Andrew Robertson, President of the Board of Governors. Mr. Williams referred to the excellent management of the hospital, and the facilities it afforded to the McGill students to obtain a practical knowledge of the details of their profession. He trusted that the building would soon be improved.

MR. ANDREW ROBERTSON, in reply, said that if the proposer of the toast was not satisfied with the buildings of the General Hospital, neither did he like them. (Hear, hear.) For twelve years he had in his mind the enlargement of the building, and his predecessor, Mr. Peter Redpath, had the same idea before him. They had now the ground for the buildings and a little money, but they wanted more

money, and he hoped they would soon get the plans. He was reminded of the story of the clergyman who preached the following charity sermon: "He who giveth to the poor lendeth to the Lord, and if you like the security you had better put down the cash." So it was with the citizens of Montreal—if they liked the security in building up a hospital worthy of the city of Montreal, let them put down the cash. In conclusion, he would remind the students of the words of the American poet:—

" In the world's broad field of battle,
In the bivouac of life,
Be not like dumb, driven cattle;
Be a hero in the strife.

Let us then be up and doing
With a heart for any fate,
Still achieving, still pursuing—
Learn to labor and to wait."

—(Applause.)

The toast of the "Sister Universities" was proposed by Mr. J. A. Dickson, and replied to by Messrs. Lemming, McVety, Longway and Therrier.

"The Graduates" was proposed by Mr. DeCow, and responded to by Dr. Rodgers.

"Class '86" was proposed by Mr. Laffeur, and responded to by Mr. Bradley. The toasts of "the Ladies" and "the Press" were suitably honored.

The health of the Chairman was then proposed and enthusiastically received.

Correspondence.

To the Editor of THE CANADA MEDICAL & SURGICAL JOURNAL.

DEAR SIR,—I am very sorry to see the spirit of your editorial copied into the *Medical Record* of the 19th December, more especially so as there has been an era of good feeling between the medical profession of the United States with those of the Dominion, and also between the two great representative medical societies of both countries. You seem to take it for granted that because the "tone of the great medical weeklies of the eastern cities show very plainly that there is still war between the adherents of the old and new committees," that such a condition exists. The additional committee made by the American Medical Association at its late annual meeting in New Orleans held their first meeting in Chicago. The original committee were invited to be present to take part in the deliberations. Three were present, but because the action of the majority did not suit them they resigned. The additional committee have gone on and perfected the arrangements for the Congress, and placed the whole matter in the hands of an executive committee to complete details.

"The great medical weeklies of the eastern cities" have done nothing in aid of the Congress, and thus far have done everything in their power to kill it (I may except an editorial

in the *Medical News* of Philadelphia of the 12th instant). Could you travel through this country you would be surprised to find what little influence these "great weeklies" have had over the medical profession in reference to the International Medical Congress. The "quarreling" you refer to lies with the editors of the "great weeklies" and a few of their special friends, who had assumed to themselves that *they* were the American medical profession when they only formed the six hundredth part. You say: "To attract the workers of other countries the sections must be controlled by the men most eminent in their respective departments (eight, so far), but the present officers of sections, with few exceptions, do not reach beyond a respectable mediocrity." I venture to assert that the names of the gentlemen placed by the Committee at the head of the sections are the peers of any member of the profession in the United States, and there is no one even in the great Eastern cities that will dare to throw down the gauntlet to the contrary. I deeply regret such a comparison should come from the profession of a neighboring country; but perhaps the "great weeklies" of our neighbors do not any more represent the profession there than ours do here—especially in the matter of the International Medical Congress. You say if certain things cannot be done, "give it up." I can assure you this advice will not be heeded—the American people never *give anything up*; neither will the *medical profession give up the Congress*. The American Medical Association, speaking for the medical profession, invited the Congress to meet in Washington. The invitation was accepted. The American Medical Association will see that all arrangements are made for its reception in its own way, and I can assure you and the medical profession abroad that the most perfect and elaborate arrangements will be made for their reception, and it will rest solely upon themselves whether they will be present to attend and aid in making the Congress more instructive and more useful than any before.

Yours respectfully,

WM. BRODIE, M.D.

64 Lafayette Ave., Detroit, Mich.

Obituary.

—The sudden death of Dr. Marsden of Quebec, immediately after his return from attending a meeting of the Québec Central Board of Health at Montreal, has caused a deep and widespread sorrow throughout this province. Dr. Marsden was born in Lancashire, England, in 1807, and came to Quebec in

1812. He began his medical studies in this country, and completed them in London and Paris. For the past thirty years he has occupied a prominent and honorable position among the physicians of Quebec. Before the incorporation of the Quebec Medical School and Laval University, he delivered courses of lectures on Anatomy, Physiology and Surgery. He has been an extensive contributor to the medical press of the country, his work on "Cholera" being the most important of these. He occupied the position of President of the Canadian Medical Association in 1874. For many years he was President of the College of Physicians and Surgeons of Quebec, of which he was senior Governor. He was also an honorary Fellow of the Botanical Society of London, a corresponding Fellow of the Medical Society of London and of various other learned and scientific bodies. At the time of his death he was an active member of the Quebec Central Board of Health. He was indefatigable in his efforts to prevent the smallpox from spreading to Quebec, and for the enforcement of means of preventing its ravages in this city. Dr. Marsden's death is a great public loss.

DR. A. H. SMITH, one of America's distinguished obstetricians, died at his home in Philadelphia, on the 14th December, after a long and painful illness. Dr. Smith was born in 1835, and was consequently fifty years of age,—and, although a comparatively young man, he has done a great deal for the advancement of his own particular specialty. He is best known abroad as having made a very important modification of Hodge's pessary. He was one of the founders of the American Gynecological Society, and was its president at the ninth annual meeting held last year. His death is sorely felt by those who knew him. Honest and modest in all his work and ways, he has passed away regretted; but his influence will long live to stimulate to good work those who knew his worth.

Medical Items.

—J. B. Lawford, M.D., McGill, 1879, having passed the final examination in November last, was admitted to the Fellowship of the Royal College of Surgeons of England on Dec. 10, 1885.

—Dr. Wm. Stephen has gone to practice his profession in South America. He sailed from Liverpool a month ago, and will fix his residence at Rosana, Argentine Republic.

—The *Johns-Hopkins University Circular* for October, 1885, contains in abstract three papers by Dr. T. W. Mills,

Lecturer on Physiology, McGill University. The first of these is on "the Rhythm and Innervation of the Heart of the Sea Turtle." This is a continuation of Dr. Mills' work on the physiology of the chelonian heart. The second is on "the Physiology of the Heart of the Alligator." This is, with the exception of a short paper by Gaskell on "the Crocodile," the first published observations on the heart of this group of animals. Dr. Mills has, as the result of his investigations into the *Crocodylia*, come to the conclusion that the vagus is a powerful cardiac augmentor, at least in the alligator. The augmentation in the force of the beat is more marked than acceleration in the rate. In the third paper an account is given of the action of certain drugs on the cardiac rhythm of fishes. Dr. Mills' experiments promise to be fruitful in results.

AN INDISCREET DOCTOR.—Dr. Haywood Smith, the well-known and highly esteemed London physician, was unwise and imprudent enough to allow himself to be inveigled into the Armstrong case by Mr. Stead. He chloroformed the girl, examined her, and certified to Mr. Stead that she was "pure." The English medical press naturally condemn his action, and the British Gynæcological Society have accepted his resignation as secretary, expressing their thanks at the same time for the distinguished services he has rendered to this Society, and affirming "their belief that in what he did in reference to the Armstrong case he was actuated by what he believed to be the highest motives, while committing a grave professional error."

SALICYLATE OF QUININE.—In certain cases of subacute or even chronic rheumatism, and in some cases of acute rheumatism where salicylate of soda has proved ineffectual, M. Vulpian has substituted the salicylate of quinine in the same doses. The deafness, headache, etc., are less marked and the effect is much more satisfactory.

THE SUPPORT OF QUACKERY.—"Charlatanism," says Dr. Holmes, "always hobbles on two crutches—the tattle of women and the certificates of clergymen."

—A question in Medical Jurisprudence: How are the sinews of war connected with the bone of contention? and how do these affect the musselmen?

—"Luminous doctors' signs are prominently advertised in the pages of a contemporary. That is just the kind of doctors who run the least to such things. As a rule, it is where the "inward and spiritual grace" least abounds that there is the greatest ostentation of the "outward and visible sign."