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THE
Montreal Medical Journal

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A CASE OF SUBCORTICAL GLIOMA OF THE LOWER PART OF
THE LEFT ASCENDING FRONTAL CONVOLUTION SUCCESSFULLY
REMOVED: A CONTRIBUTION TO THE
NATURE OF THE SPEECH DISTURBANCE ARISING FROM
LESIONS IN THIS SITUATION.

BY

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Professor of Medicine and Clinical Medicine, McGill University; Physician to the
Royal Victoria Hospital.

L. P., aged 37, a painter, first came under observation on the 6th of December, 1900. His complaints were of temporary attacks of complete loss of speech. He was, with the exception of occasional slight frontal headaches, as far as he could judge, in perfect health up to the 2nd of August, 1900, when he was suddenly seized with an attack solely characterized by absolute loss of speech, being unable to utter a word or sound of any kind—a condition of perfect mutism. This state lasted about 30 minutes. It was not attended or followed by any other symptoms of any kind. About the middle of September, or six weeks later, he had a precisely similar attack, lasting about the same length of time. Up to the time of his admission, he had in all ten such seizures, the last one occurring on the morning of his admission to the hospital. He arrived at the railway station, and after getting into a cab, he was unable to direct the cabman where to drive him. Like the previous attacks it passed off in the course of about half an hour. During the attacks he understood perfectly what was said to him, and knew what he desired to utter. He has frequently tested whether he was able to read and write during the attacks, and is confident that he was able to accomplish both acts as well as he ever could.

He is not now nor has he been at any time troubled with either nausea, vomiting or headache.

During the last few attacks, he has felt a sensation of numbness or deadness in the index and middle fingers of the right hand.

It is a very slight sensation and does not last as long as the loss of speech. It is not felt till after the latter sets in, and disappears before it. At no period has there been any muscular weakness during or after the periods of loss of speech, neither has he observed double vision.

He has always been healthy and regular in his habits.

There is no history of syphilis.

His father died at 60, from heart disease. His mother is living and in good health. There is no family tendency to malignant disease, to tuberculosis, or to rheumatism. There is no neurotic family history.

His condition on admission on the 6th of December, 1900.

He is a well nourished man, aged 37 years, of medium stature, active in all his movements. He is fairly well educated, and possessed of good intelligence. He sleeps well.

Nervous System:—During the two days that he spent in the hospital at this time, there was no recurrence of the attacks of mutism. Dr. Birkett made a very careful examination of the larynx, and found no disturbance of either the abductors or adductors. Both were found to move freely on phonation.

All the functions of the central nervous system were normal.

There was no motor or sensory disturbance of any part.

A careful examination into the different forms of the muscular sense did not elicit any sign of abnormality.

The organic reflexes of swallowing, defecation and nicturition were not in any way interfered with.

The knee jerks were found slightly exaggerated, and all the superficial reflexes except the pharyngeal were present.

Examination of the eyes did not reveal any deviation from the normal in either the external or internal muscles, nor in the optic nerve.

The urine was free from albumin and sugar, and was found normal in other respects.

A careful examination of the remaining organs and systems failed to reveal any signs or symptoms of disease.

He was discharged at his own urgent request after remaining in the hospital for 48 hours.

It was thought likely that the condition was one of functional (hysterical) mutism. The loss of the pharyngeal reflex in addition to the intermittent mutism, were looked upon as a combination of symptoms that were more likely due to functional than organic disturbance. Had more consideration been given to the slight, but still clearly defined sensation of numbness accompanying the more recent attacks, this error would have been avoided.

Condition since his discharge from the hospital and his re-admission on the 24th of January, 1901.

Three days subsequent to his discharge, another attack of "speechlessness" similar in its character and duration to the previous attack, was experienced by him and up to a week before his re-admission, similar attacks were frequent. For a week previous to his re-admission he had no disturbance of speech. He was quite clear mentally, during the attack, knowing well what words he would like to say, but was unable to utter them.

On the 3rd of January, he had "an attack of spasmodic jerking of the muscles over the right lower jaw," lasting a few seconds. At the same time he felt a numbness and weakness in the right arm. These symptoms, he says, have lasted, although in a much diminished degree, up to the present. Several minor attacks of spasm of the muscles of the lower part of the face, have recurred, but all less marked than the initial one of the third of January. The numbness he refers mainly to the hand and forearm. It is always more marked during the morning hours. There is no subjective disturbance of sensation in the right lower limb.

He complained of his sight failing, but was still able to read fine reading type. During the attack of facial spasm on the 3rd of January, he was blind for a few seconds in the right eye. From January 1st, and up to his re-admission, headache, both frontal and vertical, has been often present. Frequently it is so severe at night, that he has been unable to sleep.

Vomiting has been present at rare intervals.

Condition on the 25th of January, the day after his re-admission.

Nervous System:—His mental state is in every respect normal.

Speech:—There is a very definite dysarthria, words beginning with v, g, k, s, b, p, w, are pronounced with difficulty. At times he has trouble in recalling certain words, but this disability is on some days not present and was not at any period an obtrusive symptom.

It might with truth be said to be only a slightly exaggerated condition of a not infrequent normal state.

He had no difficulty in understanding what was said to him. At this period he was able to write and read both printed and written sentences. He recognized objects of various kinds quickly and named them correctly, although more or less imperfectly from the disability of articulation. His gestures were found to be correct. There was an appreciable difference between the strength of the muscles of both the upper and lower extremities, those on the right being weaker than those on the left. In the case of the lower limbs the difference was not more than barely appreciable. He, however, maintained that he was distinctly conscious of a weakness in the limbs on the right side. He complained of a more or less constant sensation of deadness or numbness in the right fore-arm and hand, and occasionally of a similar sensation in the left forearm and hand. There was no objective disturbance of sensation in the extremities or elsewhere.

Eyes:—Dr. Buller found a well marked double optic neuritis. This condition was about equally present in each eye.

The pupils were medium sized, equal and reacted normally to both light and accommodation. There was no diplopia or other evidence of ocular paralysis.

Facial Nerve:—Two pronounced and distinctive symptoms, pointing to disturbance of the cortical origin of the right facial were found present, and both persisted. They were:—(1st) An intermittent, clonic spasm of the muscles of the lower part of the right side of the face. The spasms occurred several times a day, and sometimes an interval of two or three days elapsed between them. They lasted from a few seconds to a few minutes, and drew the right angle of the mouth outwards, and at times slightly upwards. (2) There was a weakness of the muscles of the lower part of the right face, the angle of the mouth on this side being lower and the naso-labial fold well nigh obliterated. On voluntary movement of the two sides of the face, the difference in strength of the corresponding muscles was very striking. The difference between the two sides was more pronounced from voluntary than from emotional movement.

The Hypoglossal Nerve:—On his re-admission it was observed that the tongue was protruded to a slight extent to the right side; as this condition subsequently increased, it was noticed that after each facial spasm there was an increase of the weakness of the right half of the tongue. When the tongue was protruded, and even when at rest in the mouth, its right half was the seat of tremor. After each attack of spasm of

the facial muscles, the paralysis was more evident than formerly. After a period of freedom from spasm, the muscles would regain to a slight extent the power lost, but as a rule there was always super-added to the weakness a further degree of disability after each facial spasm.

The other cranial nerves did not show any evidence of either cortical or peripheral disturbance.

Reflexes:—Both knee jerks were slightly exaggerated, the right being a little more so than the left.

All the superficial reflexes were normal. There was no interference with the organic reflexes. There was no evidence of disturbance of function elsewhere than in the nervous system, the temperature, respiration and pulse remaining normal.

There was tenderness on percussion, and a persistent increase of temperature of three-fifths of a degree Fah. over the left side of the skull.

Course of events up to the day of operation, March 9th, 1901.

Spasms:—The spasms of the muscles of the lower part of the right face, continued to recur at irregular intervals. There were rarely more than one or two such spasms in any one day. Sometimes an interval of three or four days elapsed between them. Their duration and extent did not differ in any essential degree from those already described.

Paralytic Phenomena:—The paralysis of the lower branches of the right facial nerve and of the right half of the tongue, continue to increase in depth. It was always observable that both paralytic states were worse after an attack of spasm. The transient weakness of the right hand and arm previously observed as occurring after attacks of facial spasm is less pronounced. The dynamometer shows, in fact, that the power in the right is greater than in the left hand. It is about equal to what one would expect it to be in a normal state. It is, however, different in the right hand from a normal grasp. It is a short, sudden exertion which is not maintained, differing in this respect also from the well maintained grasp of the left hand.

Sensory Disturbance:—The only symptoms of a sensory character were entirely subjective, with the exception to be mentioned, and confined to the right hand and the right half of the tongue, and the lower part of the right face.

Now and then he would say that he felt some numbness in the left fore-arm and hand.

The only ascertainable objective disturbance of sensation, was in the right half of the tongue, where there was a very obvious difference be-

tween the right and left halves to the sense of touch, while painful and thermic stimuli appeared to be normal.

Tactile sensation, as well as painful and thermic stimuli, were elsewhere normal. He quickly recognizes when his face or tongue is touched simultaneously by either two sharp or dull points. The acuteness of this form of sensation appears to be normal, not only in the right face and tongue, but also in the extremities.

Muscular Sense:—He readily recognized any and every position in which his right extremities were placed. If the left extremities were placed in a certain position, he could without difficulty place the right extremities in the same position when his eyes were closed. He is perfectly able to name common domestic articles by the sense of feeling. He estimates also fairly accurately, the weight and shape of objects when placed in either the right or left hand.

Speech Disturbance:—The chief if not the only disturbance of speech was in articulation. There was from the time of his entrance into hospital, a gradual progressive deterioration of the power of articulation from slight dysarthria up to a practically complete anarthria. The labials, b, p, m, were from the first pronounced with difficulty. Finally, he was unable to articulate any one letter of the alphabet that could be understood, with the exception perhaps of the letter o. The simplest words were so imperfectly articulated that it was impossible to understand him. He, however, in spite of his failure to convey his meaning, made persistent efforts at speaking. He evidently understood the words he wished to express, and appeared to have no difficulty whatever in calling them up in his memory. He knew, for instance, the number of letter or syllables in a word. There was the same difficulty in naming the numerals as in pronouncing letters or words.

Now and then it was noticeable that he had a difficulty in recalling certain names, but this was at no time a pronounced symptom. For several consecutive minutes, he would make persevering attempts to speak, seemingly always calling up the proper word without difficulty, but he was not understood because of the defect of articulation.

At no time was there any evidence, of word deafness, or of word or object blindness. He was able to read, as he spent the great part of his time in doing so, when the headache lessened.

Defect in writing:—He was able to write words of one syllable without making any mistakes, but even a very simple word required an effort on his part. Words of two or more syllables were very rarely written correctly. He made a fair success with the first syllable, but stumbled over the second. When asked to write his own name and place of resi-

dence, he was unable to do so correctly, except the first syllables. The following is the results of one of the most successful of his efforts:—

To write—Levi Poulin, Brockville, Ont.

Levi Poulin

Brockville

Ont

His success in copying printed or written words was no better than his attempts at spontaneous writing, as the following example will show. When asked to copy the word Hospital in large print the result was:—

HOSPITAL.

Hocher

When asked to copy the following words:—

“I had no dinner,” he wrote:

(I had no dinner.
I had last

The defect in writing was more a dysgraphia than an agraphia.

Electrical Reactions:—The reaction of the paralysed muscles, supplied by the right facial nerve was normal to Faradism.

Vision:—The vision was slowly lessening, this corresponding to an increase of the optic neuritis which was now especially marked on the left side. (Dr. Buller's report.)

Headache:—During the last month previous to operation the headache was more or less continuous and severe, being especially so during the night. It was chiefly vertical and often extended down the left side of the head to the left shoulder and down the left arm.

Laryngeal Muscles:—Repeated examinations of the larynx were made by Dr. Birkett, during the patient's stay in the hospital. At no time was he able to detect any deviation from the normal.

Both the abductors and the adductors were found to be capable of

normal action. An examination was also conducted by Dr. Birkett, just after the patient was put under ether, and before the operation was proceeded with, with similar results.

The diagnosis of an Intracranial Tumor was made on the following grounds:—

- (1) The constant severe headache having no other discernable cause.
- (2) The bilateral optic neuritis.
- (3) The vertigo.
- (4) The exaggerated knee jerks and ankle clonus.

It was localized on the left side of the brain at the lower part of the ascending frontal convolution, because the dominant symptoms were:—

(1) Spasms of the muscles of the lower part of the right side of the face.

(2) The presence of an abiding weakness of the muscles of the lower part of the right side of the face.

(3) A paresis of the muscles of the right side of the tongue.

(4) The presence at times of a slight paresis of the right arm and hand, together with disturbed subjective sensation in the same parts, showing that the centres for these, although not seriously interfered with, were, however, in the immediate neighbourhood of an irritating lesion.

Further, it was considered to be subcortical, on account of—

(1) The practical absence of a general aphasia.

(2) The presence of a dysarthria going on by slow degrees to an almost complete anarthria.

That it was, however, not far from the cortex was shown by—

(1) The spasms of the muscles of the lower part of the right side of the face. To induce these spasms it was rational to suppose the presence of a lesion in the immediate neighbourhood of the cortical centres for the muscles of the lower facial muscles.

(2) A unilateral lesion to induce a dysarthria must be sufficiently near the cortex to include not only the speech tracts, which pass down the same side, but also those that cross over in the corpus callosum and pass down the opposite side of the brain.

*The Nature of the Growth:—*The nature of the growth could not from the symptoms or course be determined.

A glioma was suspected because of the age of the patient and the failure of active anti-syphilitic treatment over a period of six weeks, to influence in any way favourably the disease.

A tuberculous tumor was not likely, because of the age of the patient, his general good nutrition and the absence of tuberculosis elsewhere, and further, there was no family history pointing to tuberculosis.

Operation performed by Dr. James Bell, Professor of Clinical Surgery, McGill University, on March 9th, 1901.

On account of its greater safety, ether was used instead of chloroform for inducing anaesthesia. The situation of the fissure of Rolando being mapped on the shaven scalp, an ovoid flap, two inches in its transverse and two and a half inches in its vertical measurement, having the fissure of Rolando slightly posterior to a line drawn down obliquely through its centre, was raised upwards.

The dura mater was incised about a quarter of an inch from the edge of the bone incision and everted upwards. The brain was pulsating, and the pia mater slightly cloudy. The cortex appeared to be normal, but on palpation a hard resistant mass was felt in the brain substance, at the lower and more anterior part of the opening. The brain substance over this mass was incised to the depth of a quarter of an inch, the finger introduced, and a hard irregular tumor was enucleated and removed.

This tumor mass was about an inch in its longest diameter and from one-half to three-quarters of an inch in its shortest diameter. It was encapsuled and was of firm consistency and of a whitish colour.

On removing the tumor, about two ounces of turbid, watery fluid escaped from beneath it, leaving a cavity just over the first part of the horizontal arm of the Sylvian fissure.

There was considerable bleeding from the vessels of the pia mater, which was ultimately stopped by ligature.

A glass tube was inserted into the cavity and brought out through a small trephine opening at the line of incision through the bone. The dura mater was closed by sutures of catgut and the osteoplastic flap placed and held in position by sutures through the skin.

He rallied well after the operation.

Chief noteworthy events after the operation.

Speech.—His articulation for several days after the operation was, if possible, worse than before. It was very instructive to notice how the march of improvement, when it began about 8th or 9th day after the operation, progressed.

He was first able with a fair degree of distinctness to pronounce simple words of one syllable, but it was not till about the third week that he was able to articulate words of two or more syllables. When he left the hospital, 28 days after the operation, his articulation was nearly normal. He, however, spoke slowly, and words of more than one syllable required a distinct effort. The labials especially called for a deliberate effort.

There was no difficulty manifest after the operation in calling up the names of objects or persons.

He understood readily and perfectly all spoken and written commands, and was able at once to recognize all objects and to name them correctly.

Writing.—About the same time that the speech showed signs of improving, his writing also distinctly improved, and by the time he left the hospital he could readily write correctly words of several syllables. The improvement in writing was first noticed in words of one syllable, and a few days afterwards in words of two or more syllables.

The following is from a letter written by him two weeks after his return home, and six weeks after the operation.

Royal. Victoria
Hospital

The contrast between this and the efforts he made before the operation to write his own name and place of residence, is very great and most interesting.

Spasms.—During the two or three days subsequent to the operation, the spasms of the muscles of the lower part of the right side of the face were more frequent than formerly, but after this date they gradually subsided, and after the tenth day they ceased and have not since returned.

The Facio-Lingual Paralysis.—The day following the operation, the facial paralysis as well as that of the right half of the tongue were more marked than previously. Twelve days afterwards, the tongue was protruded in a straight line, and the facial paralysis was not evident when the muscles were at rest. When he left the hospital on the 28th day after the operation, there was no trace of either facial or lingual paralysis.

Sensory Disturbance.—The sensory disturbances, like those of motion and speech, were more marked for a few days succeeding the operation, but they afterwards entirely disappeared.

The headache gradually lessened and about the end of the first week was no longer felt.

Dr. Buller, on the 27th day after the operation, examined the eyes,

but was not able to satisfy himself that there was an appreciable diminution in the optic neuritis. The patient, however, was satisfied that his vision was more acute than formerly.

There was no constitutional disturbance following the operation, the wound by the time he had left the hospital being practically healed.

He was lively and very talkative (natural state), being quite different from his irritable and despondent condition of the days before he was operated on.

REPORT ON THE NATURE OF THE GROWTH.

BY

DR. ARCHIBALD.

Tumor as removed, consisted of three large fragments and several small ones. The largest of these measured roughly about $3 \times 3 \times 1$ 1-2 cm., the second about half this size, and the third still smaller. The periphery of the tumor was of a very dark greyish colour, not much unlike cerebral cortex. It merged gradually into a whitish substance, very friable and shreddy, which formed the interior of the growth, and which proved to be degenerated, half-necrotic substance. The whole was dotted over with numerous small haemorrhages.

Macroscopically there was no distinct capsule, microscopically, however, one was found, consisting of a narrow rim of condensed fibrillary tissue, containing practically no cells.

Microscopical Examination:—This is not yet complete. It is, however, sufficient to justify the diagnosis of Glioma.

The outer, better-preserved area, shows a new growth, encapsuled as above mentioned, and consisting of cells fairly uniform in size, about twice that of an ordinary lymphocyte, but varying considerably in shape, some being round, others oval, pear-shaped, or even stellate. These cells lie in a very loose and fine stroma of fibrils, most of which do not apparently take Mallory's specific stain for differentiated glia fibres (modified fibrin method).

A few such, however, are found here and there, but whether they do not, in this situation, represent fibrin, must remain as yet undecided.

As one goes inwards towards the older degenerated portion of the growth, these differentiated fibres, taking Mallory's stain, become more numerous, and finally form a solid mass, in which comparatively few cells can be found. And these cells are, on the whole, smaller than the cells of the peripheral well-preserved area, and more uniformly round. They are, however, largely degenerated, and take any stain very poorly.

The degeneration shows as a mass of granular detritus, and is probably albuminous in nature (as is said by Bonome—(Virchow's Archiv., 22nd March, d. j.) to be frequently the case in gliomata).

There is no trace of nerve tissue in the tumor. This was confirmed by Dr. Shirres, who kindly examined sections with regard to this point.

New-formed vessels are found in abundance, together with frequent small local hemorrhages.

Around some of the old vessels there appears to have occurred a fibrous tissue proliferation, the spindle cells of which arrange themselves in a radiating way around the circumference. This is, however, infrequent; and the hypothesis of a sarcoma beginning in vessel adventitia may, so far as present sections allow one to judge, be excluded.

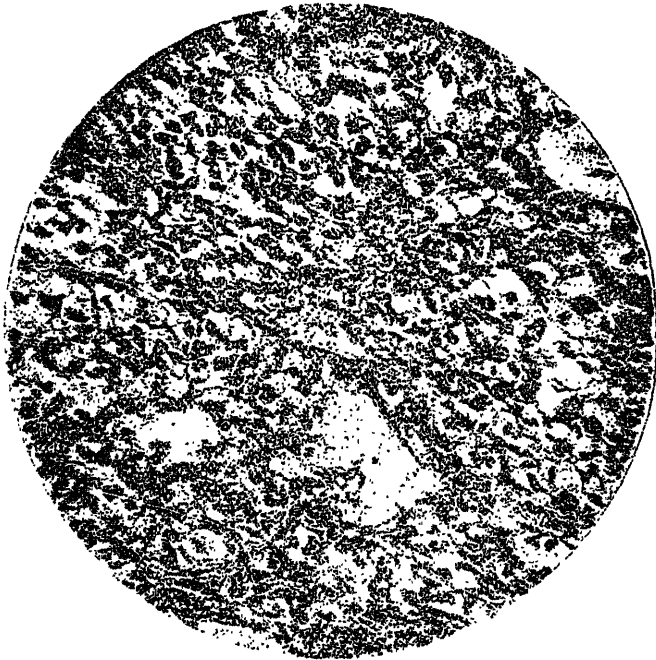


FIG. I.—Represents a portion of the periphery of the tumor, stained by hematoxylin-eosin embedded in paraffin.

To resume. We have had a tumor of widely differing histological characters. In the centre, a mass of differentiated glia fibres with very few cells; at the periphery a richly cellular growth, not unlike sarcoma at first sight, but merging by transition stages into the structure of the centre. There seems, then, to be some ground for the conclusion that the whole is of the gliomatous nature: and that in a glioma there may be one portion, presumably of youngest, most recent growth, the cells of

which have not yet the property of producing differentiated neuroglia fibres, while another portion consisting of older, or oldest, cells may, having acquired this property, show large numbers of such differentiated fibres, even to the almost total exclusion of cells. A consideration of this question will, it is hoped, throw some light on the vexed question of the so-called glio-sarcomata.

There has not been sufficient time for the thorough working out of this growth, nor for a complete examination of the literature; and the above must be regarded as a preliminary note. It is hoped, however, in

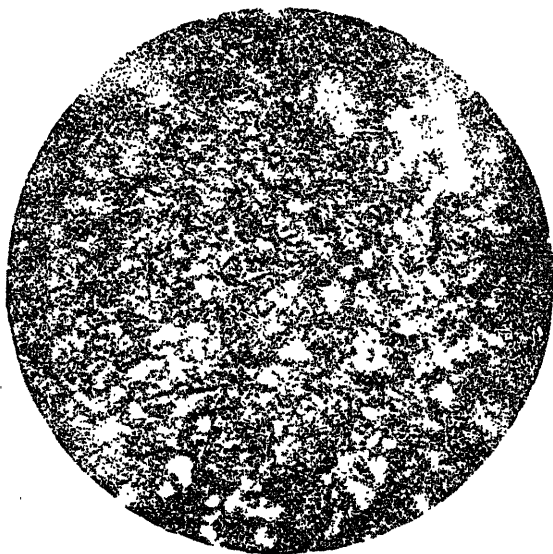


FIG. II. Represents a spot from the necrotic shreddy material of the centre, showing practically nothing but a tangle of neuroglia fibres, stained deep violet by Mallory's neuroglia stain. His phosphotungstic acid hæmatoxylin has not so far given satisfactory results.

a later article, to present a more detailed description, and a more extended consideration of the subject as a whole.

Two microphotographs are appended.

Fig. 1 represents a portion of the periphery of the tumor, stained by hæmatoxylin-eosin, embedded in paraffin.

Fig. 2 represents a spot from the necrotic shreddy material of the centre, showing practically nothing but a tangle of neuroglia fibres, stained deep violet by Mallory's neuroglia stain. His phosphotungstic acid hæmatoxylin has not so far given satisfactory results.

SUMMARY.

The following summary of the course of the symptoms in this case will make it more clear and definite.

A man, aged 37, without previous warnings, suddenly became speechless for about twenty minutes. There was a recurrence of attacks of a similar character every few days for a period of several weeks. Then severe headache and optic neuritis supervened, and afterwards facial spasm followed by paresis of the lower facial muscles on the right side, as well as weakness of the right half of the tongue. The mutism no longer was noticed, its place being taken by a dysarthria, first of labials and later of all letters and words, and finally passing on to a practically complete anarthria.

(On opening the brain, a tumor was found immediately beneath the grey matter of the lower part of the ascending frontal convolution. The removal of this was easily accomplished, and was followed in the course of a few days by disappearance of the anarthria, and the faciolingual paralysis. The patient is now, two months after the operation, practically well, there being no evidence, except slowness of speech, of any disturbance of the central nervous system.

The case is interesting:—

(1) As being an instance of a successful removal of a subcortical growth, the location of which had been correctly made out six weeks previous to the operation.

(2) As showing that dysarthria and not aphasia, is the characteristic form of speech disturbance met with in some growths in this situation. The growth was situated so as to compress the speech tract some distance from the motor speech centre, but still sufficiently near to involve the commissural fibres that pass over to the right hemisphere in the corpus callosum. Following the lead of Lichtheim and Dejerine, it has been the custom with even the most recent writers to call the speech disturbance attending lesions in this situation subcortical motor aphasia.

Bastian in his recent able work on Aphasia, clearly shows that these subcortical lesions do not give rise to aphasia, but to dysarthria or anarthria. This case bears out his views, as well as those of Elder.

It would certainly be erroneous to call the speech disturbance aphasia. An aphasic patient is able to utter some word, and when he does do so, the articulation is perfect, whereas in anarthria, when more or less complete, even the simplest words and individual letters are scarcely recognizable.

To distinguish between the anarthria of subcortical lesions and that produced by lesions of the bulbar nuclei, Bastian uses the term Aphemia

(speechlessness) for the former, and anarthria for the latter. It must, however, be understood that there is no clinical difference between the speech disturbance of subcortical lesions, and that brought about by bulbar lesions. They are recognized by the collateral symptoms.

In nearly all cases reported of so-called subcortical motor aphasia, it is claimed that defects in writing did not occur.

Here there was a marked disorder in writing—an ataxia of writing, or what might fairly be named a dysgraphia. This was present without any weakness of the right hand, and was therefore not due to loss of power, but rather to disturbance of co-ordination. Considering the near situation of the lesion to the centres for the hand, it is not surprising to find and not difficult to account for, the disability in writing.

THE ART OF HEALING AND THE SCIENCE OF MEDICINE.*

BY

J. G. ADAMI, M. D.

We are to-day gathered together to celebrate the laying of the corner stone of the new laboratories of the Medical School of the University of Michigan, and it is fitting that on such an occasion we should ask ourselves what is the good which we hope will be accomplished by those laboratories? Every medical school that is progressive finds it essential to advertise the possession of laboratories, and it may be the details of the apparatus contained therein—the “scopes” and “graphs” and “ometers,” and so on.

Your University has been well to the fore in this matter of laboratory training. Since 1856, or now close upon 50 years, there has been a chemical laboratory, for 25 years histological and physiological laboratories have been established, your laboratory of medical chemistry was the first of its kind in America as was that for electro-therapeutics, as was again your laboratory of clinical medicine. You possess also, what few other universities possess, namely, a surgical laboratory in which, as part of his course, each student is taught to perform operations and to practice the methods of antisepsis and asepsis. Some of these laboratories, as for example, those in clinical medicine, surgery and hygiene, may be spoken of as directly medical, but the majority are for training in what are preparatory subjects.

Why is it that we lay so much stress upon practical training in subjects which are not directly medical? At least ninety per cent. of our students will never aspire to be anatomists or to make histological preparations, once they graduate; neither will they compound their own drugs, or test, by means of instruments of precision, the effects of those drugs upon the heart, muscles or secretions of their patients; we do not expect them to instal incubators and grow bacteria upon their own premises, and, while we hope that they will employ their microscopes for the routine examination of dejecta, we gravely fear that with the majority the microscope under its glass case will be but one of the insignia of the doctor's office—will be to that office what the glorified bottles of colored water are to the druggist's window. It is these laboratories with their necessarily large staffs of demonstra-

* An address delivered on the occasion of the laying of the corner stone of the New Medical Building of the University of Michigan, Ann Arbor.

tors and assistants which make the medical course so increasingly expensive, so expensive that we cannot expect the student to pay the full cost of his education, even when a large proportion of the professoriate give their services for nothing or next to nothing—so expensive that we look to the State or to private munificence for aid in building the laboratories or endowing special professorial chairs.

Were it not better done to spend less time and money upon all this scientific work, and more time in the hospital wards and clinics? The four years course is all too short even for a thorough hospital training. Once graduated it will be at the bedside and in direct attendance upon the sick that the physician will find his occupation. Why all this instruction in science and not a thorough, and shall I say, old-fashioned, practical training in the study of the treatment of the sick?

It is worth while pausing to answer these questions and this, not only because incidentally our answers must bear upon and elucidate what is true education, but also because I know—and you know—that these very questions are being asked by not a few able and practical members of our profession. There is, I find, an increasing outcry on the part of many clinicians that the modern student is being overburdened with science, that, asked concerning any given disease, he can discuss volubly its causation and the meaning of symptoms and can test chemically and microscopically the discharges which may be sent to him, but when that same young graduate, or about-to-be-graduate, comes opposite to the living and suffering patient, he shows himself, not to mince language, an incompetent fool.

Now I am, as some of you may know, no clinician; I am purely a laboratory teacher; but as such I recognize that we should strive to answer squarely such questions and such objections. I feel assured that they can be answered favorably, so far as regards the modern laboratory training, and this being so, it is but right that I should testify on behalf of the faith that is in us.

It will be seen that these questions resolve themselves into this—Are we acting wisely in insisting upon a thoroughly good grounding in the ancillary sciences, or would we do better to insist less upon laboratory more than clinical training? Thus, to-day, I would especially take up this matter of the methods of medical education, with especial reference to the part which laboratory work should take in the same.

What is our object in medical education? That object is, to develop, or attempt to develop the ideal practitioner. It is not merely to develop a learned man, but to develop one who shall so bear himself in all his relations that he will be a credit to himself, his alma mater,

his profession and his country; who shall be, in the first place, of the greatest possible service to those of suffering humanity to whom he ministers, and not only that, but shall be an influence for good in improving the conditions of life in the community in which he practices; who shall so minister that he aids and strengthens his fellow-workers and raises the standard of our profession as a profession; who shall add credit and lustre to the school which has produced him, and lastly, who in all his relationships shall so bear himself that at the end of the day's work—as at the end of his life's work—he shall feel within himself that he has done his duty loyally and has earned his rest.

It is difficult to picture forth the ideal practitioner, nor shall I attempt it. Each of us, I doubt not, has his own idea of that ideal. In the words of Pythagoras, "There are two things which must ennoble Man, and make him to resemble the Gods—to know the Truth and to do Good." The ideal practitioner of all men, it seems to me, most constantly attempts to exemplify this saying and to live the noble life. High character, good manner and marked capacity play important parts in our ideal of what he should be.

Now character, manner and capacity, each and all, are in part inherited, in part capable of acquirement. It is not given to everyone to be, or to become, a capable and adequate physician; he only can become such who is born to the work. In a recently published life of Sir Benjamin Brodie, you will see this called in question. Brodie is quoted with approval as stating that he had no interest in medicine as such when he began his career as a student; he pooh-poohed the idea as to their being any special call to our profession; all that was necessary for success was a strong sense of duty. Possibly Brodie is right, but I doubt it. Apart from the fact that while I freely admit that he was a most popular and most fashionable surgeon, he never seems to me to have been quite the highest type,—something was wanting in him,—my personal knowledge of those men whom I have learnt to reverence as teachers or as colleagues, and of those who were fellow-students with me, has abundantly convinced me that it is those that have been keenly interested in medicine from the start, who have loved their work for that work's sake, who now have made or are making their mark; while those who have entered our profession purely to please their families have accomplished relatively little. If there be not a special call in the medical career, at least there must be a keen interest in our subject from the very beginning, for without this it is impossible to undergo the drudgery of the earlier years of training.

Something in the manner of the man, in his character and in his capacity there must be from the start, and upon this we have to build. And now as to the manner of that building. How, in the first place, can we best develop character and manner? It has to be admitted that our influence in the medical school can only be indirect; we cannot give special courses in these subjects. On the other hand the university life is in itself the best training—the intimate contact at the most susceptible age with those fellow-students leading high lives and having high ideals and the keen but generous rivalries lead insensibly to elevation of character and the development of good manners, which after all are but the so conducting oneself as to treat others as you would they should treat you.

There is, however, a branch of good manners, if I may so term it, especially pertaining to the medical man which is summed up in the expression, "a good bedside manner." It is possible, nay, I think probable, that we could do more towards the development of this: certainly those of the old school possessed it to a far greater extent than do we of modern days. In the old days of apprenticeship—by the diligent, if unconscious study of the methods of one good man, by observing how he encountered his patients, how he led them on to feel at ease and trust him and to unfold their tale, how he detected the petty foibles of the patient and made use of the same in determining the treatment to pursue—the student undoubtedly learnt much that was of very great use in successful treatment. Now-a-days the student has not this opportunity. He learns from many men and not from one, he has time to note the idiosyncrasies of his clinical teachers but little time to recognize and learn to imitate their greater gifts and, among these, their art of influencing the patient. There is indeed so great a rush, so much to be accomplished in one short hour, that the clinical teacher cannot bring to bear the fine art of personal influence to its full extent; that requires time and leisure, and these are wanting. Again, now-a-days we are losing the art of good prescription. We leave that to the wholesale druggist and few, I fancy, trouble themselves now-a-days with regard to incompatibles, and to the subtle hiding of the taste of nauseating drugs by suitable essences. Still less do they trouble about so prescribing that the medicine becomes actually attractive.

It may be that to-day we do not sufficiently recognize that there is an art of healing, certainly our course is not calculated to impress upon our students the importance of this art. A portion of it, it is true, which is mechanical, we do regard; we teach our students, for example, how to operate; but even here the modern tendency is not so much to lay stress upon the performance of operations as an

art—the performance of artistic operations—as upon precautions to be taken lest harmful processes occur in the wound after the operation has been performed. The art of operating, in fact, reached its highest point before the introduction of anæsthetics and antiseptics, before the beginning of the scientific period, when students and practitioners stood round the operator, watch in hand, and timed the number of seconds taken to accomplish a major operation, and marvelled at the sureness of the cut.

We could do more to elevate this art of healing, namely, in training our students how to approach the patient, and how, giving him confidence, to gain that patient's trust in the man and in his methods which is so important a factor in the cure of many conditions. As Dr. Osler wrote in a late review upon medicine in the last century, "Faith is the great lever of life, without it man can do nothing Faith in us, faith in our drugs and methods is the great stock in trade of the profession it is the *aurum potabile*, the touchstone of success in medicine. As Galen says, 'Confidence and hope will do more good than physics—he cures most in whom most are confident.' Faith in the gods or in the saints cures one, faith in little pills another, hypnotic suggestion a third, and faith in a plain common doctor a fourth."

It is by our manner and bearing very largely that we become capable of instilling this faith. There is no need for us to shut our eyes to the fact that many of what the laity regard as our most marvellous successes are not ours; when others would praise us our cry should often be "Non nobis Dominie, non nobis," the good results, so far as they are due to us, being, not the result of our knowledge, but of our power, in part inborn, in part acquired, of impelling trust and confidence. To a larger extent they are due to the state of mind of the patient, to his state of preparedness to be influenced, and our drugs, it must be remembered, have more than a pure pharmacological action. "The time-honoured potion carries with it the undying power of the medicine-gods and the medicine-man, of Fairyland and of the witches, as real as ever The calamity came from the unknown and they will have help from the unknown."

But, after all, the mere knowledge of the art of healing does not make the physician—certainly it does not make the ideal physician. and as to faith—well, there is an old-time controversy concerning the

* There are few more delightful essays than those of Moxon, of Guy's, and I would advise all who have not done so to read and enjoy his 'Pilocereus Senilis.' But I warn you they are delightful to the extent that they are masterpieces of genial cynicism, exquisite language, wilful contrariety and brilliantly inaccurate reasoning.

value of faith without works. Given Art of healing and Faith in the healer I would ask you to compare the status of our profession in the 18th and earlier centuries with its status now at the beginning of the 20th. One need but study 17th and 18th century literature to discover that in those days the typical physician was not delineated in a manner that is pleasing. In that literature he is depicted as pompous, formal and insincere, accustomed to hide his ignorance of the nature of disease in a cloud of high-sounding words; accustomed to veil his ignorance of the cure of disease by inflicting upon the patient medicines compounded from an appalling number of drugs on the off-chance that one or other of the many might prove efficacious. Rarely is he depicted as a disinterested seeker of the truth, the friend and counsellor of the family, the man ready to sacrifice time and himself in order to aid in effecting cure. And yet all this time the art of healing was especially studied, and manner was regarded as the essential for success. If our status and the popular estimation of our profession have risen during the last century it is not because we have improved in these matters. On the contrary, as I have pointed out, we have as a body deteriorated. It is because we have developed the science of medicine, because, now-a-days, we are not or would not be empirics; it is because all through this last century we have striven, to an extent never before known, to comprehend disease, to seek out its cause, to understand the meaning of symptoms, to develop a system of rational therapeutics, so that now over and above profound acquaintance with the art of healing what leads to the production of the ideal physician is a knowledge of the science of medicine.

Do not, in the first place, be misled by those who, like Moxon, deny the existence of a science of medicine. Of course there is a science of medicine just as there are other biological sciences. One might as well say that there is no science of astronomy, because if one analyses the work of the astronomer it is but the combination of physical and mathematical observations. And this science of medicine consists in the close observation of the facts of disease and of its cure, in the correlation of those facts and the systematizing of the same, with the deductions to be drawn from such correlation. Over and above everything therefore we in our system of medical education have to evolve the man of scientific training and possessing the habits of scientific thought.

Now the education which shall evolve the man of science is altogether different from that fitted to develop the literary man, or so-called man of culture. As Huxley remarks in one of his Lay Sermons: "In the world of letters learning and knowledge are one, and

books are the source of both, whereas in science, as in life, learning and knowledge are distinct and the study of things, and not of books, is the source of the latter. All that literature has to bestow may be obtained by reading and by practical exercise in writing and in speaking; but I do not exaggerate when I say that none of the best gifts of science are to be won by this means. On the contrary the great benefit which a scientific education bestows, whether as training or as knowledge, is dependent upon the extent to which the mind of the student is brought into immediate contact with facts, upon the degree to which he learns the habit of appealing directly to Nature and of acquiring through his senses concrete images of those properties of things which are and always will be but approximately expressed in human language."

But to this extent this scientific man is like the literary, that he requires to use the same instruments for thought and the expression of thought; both require to be so trained that they can know how to use with facility the tools of intellect and of thought;—reading, writing and ciphering. And here let me say that a painful experience of examination papers convinces me that the majority of would-be medical students on this continent, both American and Canadian, have not been trained in the use of their tools, I am rejoiced to learn since I have been here in Ann Arbor that this statement does not apply to the majority of the medical students of the University of Michigan, and that the general school training of this State is, judging from its results, excellent. But speaking for medical schools in general it has to be confessed that a miserable proportion of our men come to us able to express themselves lucidly, to place upon paper a well-connected train of ideas. The majority are but capable of jotting down correctly bald facts in indifferent order, while many cannot even jot down these facts grammatically. I hear much the same complaint about the ordinary run of English medical students.

There is something woefully wrong in our common scheme of preliminary education, and I am inclined to think that the official scheme of education is wrong in this, that it is a system of cramming in instead of one of "drawing out," a system of supply of facts instead of being one of training in the application and the utilization of facts. In place of a thorough training in the aforesaid tools our youth is led abundantly on a multiplicity of subjects and then, if I may venture to quote a very well known English physiologist, is "expected to pass a copious examination." The examination system almost of necessity calls for the exhibition of facts instead of the application of the same. While further, our present system, perhaps rightly (though I

think to too great an extent), instils into the mind of the learner a reverence for authority—such and such a textbook is to be used, such and such a statement or statements are contained in that textbook and have to be known, such and such statements therefore are to be regarded as essential and correct. Thus it is that the student enters upon his career at a medical college with a profound belief in authority and a disposition to accept what he finds stated in textbooks as authentic and as, if I may so express it, “necessary to salvation.” He is prepared to have his thinking done for him by writers of textbooks and by his lecturers; he is wholly unprepared to think for himself, or if he does think for himself his thought and his theory is based, not upon what he has himself observed, not upon facts which are known by him to be facts, but upon what he assumes to be facts. To such an extent is this the case that, tell the commonplace young student that there is a murmur to be heard over an aortic cartilage and he will hear that murmur although it is non-existent, tell him that there is no murmur present and he will mistake a good hard blowing murmur for the ordinary heart sound.

“Though Man a thinking being is designed,
 Few use the great prerogative of Mind;
 How few think justly of the thinking few.
 How many never think who think they do.”

Do not mistake me and imagine that I mean to indicate that the medical student at the start is less thoughtful than the ordinary man; I do not mean any such thing. But I do mean that in our course of medical education we in general have to begin to teach our men to think, to make them think for themselves, to make them observe facts and prepare them to reason sensibly and logically upon these facts. Only by doing this can we hope to develop men of resource, men capable of treating each case that comes before them in a sound and scientific manner. It is not possible for men to succeed by committing to memory descriptions of disease, remembering such descriptions and recognizing that a given case which presents itself to their notice tallies entirely with the description in the textbook and consequently is to be treated according to the methods laid down by authority. It is futile also for men to imagine that by walking the hospitals they will in the course of two or three years gain so full a series of mental pictures of disease that in practice all that is necessary is to remember these pictures in order to make accurate diagnoses and, remembering likewise the exact treatment given in the hospital to similarly treat their cases with success. I do not say that such memories never avail; of course they do; they are time and again serviceable. But this

may surely be laid down, that each case carefully studied is found to present divergences from the type; each case is different from every other one, and so can only be conscientiously treated by the appreciation of those differences and suitable modification in treatment, that is by the application of thought. As in physiological experiments every slight modification of the factors involved modifies the result, so in the attempt or experiment to heal or alleviate disease. To obtain the right result the factors involved must be understood and the variation in the factors involved must be taken into account. And to appreciate the working of the different factors the student has to know the main laws of physical and chemical science, because at bottom all the phenomena of life, whether healthy or diseased, are chemical or physical. He has to be acquainted with Biology and the main laws governing living and sentient as distinct from non-living matter; he must have a broad grasp of Physiology and of the functions of the normal and healthy organism; he must be acquainted with the structure of the body and with the finer structure of the more important organs so that he may obtain a clear mental view of what happens in those organs and of the effects of disturbed activity; or otherwise, he must comprehend Anatomy and Histology. Further, he must have a knowledge of the main causes of disturbances of function of the body, of the causes of disease; of the main processes of disease, so that recognizing the existence of these processes he may know their meaning; and of the main results of disease, so that he may understand how to cope with or alleviate these results. Using drugs and other methods of cure he must know how these influence the organism so that he may be enabled to use them with due effect; or otherwise, he must have full instruction in Pathology and Pharmacology.

Lastly, the doctor's function in society is not merely that of curing disease but embraces also the higher and self-denying duty of employing all means in his power to improve the health of the community in which he finds himself. He must be familiar with the main facts of Preventive Medicine and Sanitary Science.

No man can think honestly or deal honestly with facts however much he so desires to do, until he reaches this stage, the stage of being prepared to accept authority only so far as himself testing, or having at some previous period tested that authority he finds it to be correct. And so it is that to gain properly a knowledge of all these matters and to use that knowledge when gained, the direct study of natural phenomena becomes essential. Herein lies the value and here the need of laboratory work for the medical student.

And thus it is that for the instruction of our students we must have

good laboratories in order that they may not merely have a book knowledge of the laws and of the basal facts of life (which are the laws and the basal facts of operation in and determining the course of disease), that they may test those laws and see their operation, that they may have a personal intimate knowledge of their own that these things are and have their definite effects, that they may observe the correlation of facts and having personally tested this correlation may reach the stage in which they may from known facts learn to argue aright and gain the habit of independent and well sustained thought. And it is when the student has reached this stage that he is in a position to gain full benefit from his work in the wards, that he becomes capable of studying rightly the individual cases which come before him. Do not let it be thought that I am here for a moment attempting in any way to depreciate the value of clinical work in the education of our students. On the contrary, that is the supreme portion of the medical training for which all the rest is preparatory. Rather, for myself, I wish to see that training more thorough, to see the student permitted to a greater extent than he is in most medical schools to undertake full study at the bedside, and for this reason I am against what is now spoken of as the Harvard method, that of giving to the student histories of cases and from the symptoms noted in those histories asking him to work out the nature of the disease and course of treatment to pursue. For, if such a system, admittedly attractive and of some value, becomes at all general, the infinitely more valuable training to be obtained from the study of the patient himself, is liable to be replaced or not striven after. The student needs every particle of clinical training that we can give him, but this training should come more towards the end of his course, or rather should come when he has already had a sound training in scientific methods, and as I say, above all in the habits of scientific thought.

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There is, lastly, another aspect of the laboratory which must assuredly be taken into consideration, I mean the laboratory as a centre for medical research. Locally, having regard for our own institutions, and here I speak not merely for the teaching staff of such institutions but in reference to the governing bodies directing these institutions, the needs of our students of necessity occupy a first place in our thoughts and call for our first consideration. That which is always before us, is how best to minister to them and to make our teaching a success. Almost inevitably therefore we are apt to overlook to some extent, the importance of research in a university.

And yet for the abiding reputation of the university, in order that

its fame be not merely a local matter but be spread far and wide, and that the influence may be felt in countries far remote and even among people speaking other languages, the ordinary teaching is of relatively slight importance, research in its laboratories and in the clinics attached to the University is of prime importance. And here, to become personal,, let me tell you that years ago in the early eighties, when I was a young graduate in Cambridge, England, when I never thought that one day I should be established upon this Continent, and should find myself addressing you, I knew and I respected Ann Arbor. I knew nothing as to the large size of your classes, nothing with regard to the quality of your teaching, nay rather, the very name gave me an idea of the university as a small rather idyllic community situated in some little country town; certainly I never imagined that this was a State University giving a free education to all those born within the State and showing themselves capable of benefiting by the wide beneficence and liberal forethought of your State Government. But I knew Ann Arbor from my interest in the researches of one of your professors, now no longer with you; I refer to Professor Sewall. And, if those researches made a name for him, they also made your University to be known favorably as a centre in which good work was being carried on, as a place where there was a high scientific spirit. But a year or two later when I came across the researches of your Dean, Dr. Vaughan, those drove home and strengthened my first impression of Ann Arbor.

And indeed, when we come to study the history of the development of universities, we find that they were established originally, not in order to accord the elements of a general liberal education but for the prolonged study of professional faculties by men of riper age. It was the Church of the middle ages which in its various conventual and other schools gave the elements of a liberal education. Men came to Bologna, the first great university, for special study in law, they went to Salerno for special advanced study in medicine, and only secondarily did the great old universities of Bologna, Paris, Oxford, Cambridge and the rest, become centres at which a general liberal education was afforded. That they should have become such was perhaps inevitable, that the teaching of those requiring an ordinary degree should replace what I may term advanced work, was, it may be, a necessary evolution. Even now, in our old English universities we distinguish traces of this earliest order of affairs; the general teaching of students is still very largely left to the colleges, which were and are voluntary associations established within the university and originating primarily very much as the fraternities have originated in our American Universities during this last century, namely, as a result of the desire

of students coming from certain districts or having special sympathies, to band themselves together. The university it is true affords examinations to those thus taught in the colleges, but the professors still to a very large extent are supposed to be engaged in advanced work and in helping advanced students. But it has to be acknowledged that the colleges have gained the pre-eminence and in the minds of most constitute the university.

Inevitably as students flocked to a university, the universities became popular. The teaching of ordinary students in the more elementary work for the arts or professional courses came to the fore there and elsewhere, and this to such an extent that the primary function of the university at the beginning of last century, had, save in Germany, been very largely forgotten. The German universities, despite the troublous times, the wars and the poverty of the people, or indeed, it may be largely because of the troublous times clung to the earlier conception of their functions. For the number of universities being great, as the number of students became small in consequence of the diversion of the energies of the youth to the army and to making sufficient to earn a living, the staffs turned to and continued at advanced work. The consequence is that, small and large, the German universities have become famous throughout the world for the advances made in science through the researches of their staffs.

Now-a-days, we in America are coming to recognize fully the advantage to the community at large and to the universities themselves of accomplishing this higher function and of encouraging research. If any university is to take first rank it must afford opportunity for those properly prepared, to undertake research work in properly appointed laboratories, and according to the encouragement given to such research so will be the reputation of the university.

I feel, though, that I need scarcely make those remarks here in your midst, for you in Ann Arbor have taken a foremost place on this Continent in recognizing the value of research and, through the observations of your Staff, it is no false praise to state that you have gained a reputation altogether in excess of the importance of Ann Arbor as a city, altogether in excess of the size of your university, the number of your students and the extent of your equipment, large as these are. As coming from outside, and indeed from another country, let me tell you that there is no State university that has the same reputation as have you, nay, more, that among those interested in medical science you take a stand equal with far older and far wealthier institutions, and this, let me repeat, not because we outside know you and the uniform excellence of your ordinary graduates—we do not come across those ordinary graduates

to any extent—but because we know and appreciate the work and the writings of Cushny, Dock, Huber, Nanerode, Novy, Vaughan, McClurich and Warthin. I here mention just the names that come to my mind and I am careful to mention them in alphabetical order, lest putting them in any other I should offend against the laws of local precedence. In short, we know your staff as a remarkable body of men who are doing as much or more than any similar body to advance the reputation of American Medicine.

And how that reputation has advanced during the last few years! The advance, it is true, has in part been in the domain of pure clinical and surgical work. American surgery, gynæcology, pediatrics and orthopædics stand well in the forefront of the like specialties in the rest of the world, but the great burst of brilliant reputation has come within little more than a decade—the brilliant observations upon pancreatic disease and its causation beginning with Fitz of Boston and culminating with the remarkable studies of Flexner and Opie; Welch and Flexner's researches upon emphysematous gangrene and its causes; the great studies of the Boston School upon epidemic cerebro-spinal meningitis and diphtheria; Councilman and Lasseur's classical observations upon amœbic dysentery with Flexner's more recent observations upon other forms of tropical dysentery; the Baltimore observations upon malaria and typhoid; Macallum's remarkable and carefully worked out discovery of the existence of a sexual process, in what we may term, malaria in birds, which led up to and made possible the full understanding of the life cycle of the malaria parasite; Gilchrist's discovery of blastomycetic dermatitis; Herter's work upon metabolism, and the most recent and admirable work upon the mode of propagation of yellow fever by Read and his associates—all these are but a few of the great medical works of the last few years, of which the foremost medical community might well be proud. And all these are the result of laboratory and post mortem room research.

We can, I firmly believe, affix a date to the beginning of this veritable medical renaissance; it dates from Newall Martin's appointment as Professor of Physiology at John Hopkins and from his pregnant enthusiasm in physiological experimentation. His work, ably seconded later by Welch and Osler, has had the greatest influence in stirring up the love for medical research throughout this Continent, and already so promising are the results that that seems to have been a safe prophecy to which Osler gave utterance last year in London, that at the rate of the present advance of medical science in America, it will not be long before the medical centre of gravity crosses the Atlantic and is to be found on this Continent.

Let me congratulate you in Ann Arbor that you have recognized these things and that you are worthily preparing yourselves to keep in the forefront of medical education and medical research. May the buildings which are now growing up day by day be the centre for much sound work and observation and discoveries, which shall lead to the relief of suffering humanity and which, doing this, shall carry the name and the reputation of your university to the uttermost ends of the earth.

THREE CASES OF ECLAMPSIA IN WHICH THE CONVULSIONS WERE PROMPTLY ARRESTED BY A HYPODERMIC INJECTION OF VERATRUM VIRIDE.

BY

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Case 1.—Mrs. P., 22 years of age, consulted me at my office on the 22nd July, 1901, stating that she had nearly died from puerperal convulsions a year before, and as she was now three and a-half months pregnant with her second child, she wished me to take her case in hand so as to save her, if possible, from having them again. On further inquiry I learned that about the end of the eighth month of her first pregnancy she had been having severe headaches and loss of vision for some days, when she suddenly took convulsions. A neighbouring doctor gave her chloroform as long as he could, and then he called a confrere to relieve him, and between the two of them she was kept under chloroform from 6 a.m. one day to 2 a.m. the next, when they called in a specialist, who lost no time in performing artificial delivery, soon after which the convulsions entirely ceased. A friend who was present most of that day has since told me she had between fifty and sixty convulsions, notwithstanding the chloroform.

On examining the urine I found it absolutely free from albumin, but very acid, and her bowels were rather constipated, so I gave her an alkaline mixture with a laxative. She then felt very much better, and I did not see her again until the 22nd Sept., when she complained of feeling very badly, and on examining the urine I found it loaded with albumin. She started the alkaline mixture again, and I did not see her till the 28th Oct., when I was called to her house at night, and found her almost blind, with a terrible headache and vomiting persistently. I at once administered a half-grain hypodermic of morphine, and gave her an enema of one pint of salt solution, which was to be repeated every two hours during the night in order to wash out some of the poison from her blood, as well as to satisfy her thirst due to the vomiting, which had been going on all day. I was called again at 2 a.m., but before I could get there she had had five convulsions. Another hypodermic was given, and as soon as I could procure some tincture of veratrum viride I

returned and gave her a hypodermic of twenty-five minims, the whole syringe full. She had had two more convulsions while I was away getting the veratrum, and she had the eighth about eight minutes afterwards, but she had no more after that one. During this eighth convulsion I took her pulse and it was so full and strong that I easily counted one hundred and eighty, but inside of a quarter of an hour it had come down to one hundred, and when I returned at eleven o'clock the same forenoon, it was only fifty-six and quite soft. The vomiting was stopped and she could see me distinctly, but the headache persisted. Her friend had faithfully continued the normal salt enemias, so that she received and retained over a gallon in sixteen hours. The third day when I made my visit she appeared to be as well as ever. I took some of her water and found only half as much albumin, but I did not require to see her again until the 8th November, when she called at my office. I drew some water with the catheter and found less than a quarter as much albumin. On the 13th November she had two or three labour pains and was delivered of a dead and macerated fœtus without the slightest bad symptoms since, now two weeks ago. When seen on the 27th November she was busy with household duties.

Case II.—This patient was a primipara about seven months pregnant, who, without a moment's warning, went into one convulsion after another. When I was called in the middle of the night she was almost black in the face and her pulse was uncountable but very fast. I at once did what I could do most quickly, gave a hypodermic of morphine and atropine. As there was no cessation of convulsions at the end of ten minutes, I removed a pint of blood from her arm, with the result that the breathing became less stertorous and her colour a little better; but she kept on having convulsions about every quarter of an hour. As quickly as I could get it, I gave twenty minims hypodermically of fluid extract of veratrum viride and within ten minutes she was resting quietly with a full slow pulse, and did not have another convulsion. About twelve hours after the first convulsion she was prematurely delivered of a dead child.

Case III.—About two months ago a well-known practitioner called me in consultation by telephone on a case of puerperal eclampsia in a primipara who had been delivered four days before. During the four days previous to his calling me up the woman had had about twenty convulsions, in spite of having taken three hundred grains of chloral besides half a grain of morphine. He had called in two physicians, who agreed that her condition was desperate, her pulse being 180, and she was quite unconscious when he rang me up. I recommended a hypodermic injection of twenty minims of veratrum viride, to be repeated every four

hours until the pulse came down to normal. On making enquiries of him four days later, he said the veratrum acted like a charm in stopping the convulsions, but it nearly killed the woman. On making closer investigation it came out that she had had the above mentioned large quantity of chloral, so that I told him that I would rather blame the chloral for the patient's pulse disappearing: for in case L, which had no chloral, the pulse was first rate after twenty-five minims of the tincture. In case I. there was one convulsion eight minutes after the hypodermic of veratrum, presumably before it had had time to get into the blood, but there was no convulsion after it was administered in the other two cases.

In the first paper which I had the honour of reading before this society, twenty-two years ago, on sixty cases of chorea seen at the East London Children's Hospital under Dr. Eustace Smith, I pointed out that incoördination of movements was due to anæmia of the brain, and more particularly of the corpus striatum and optic thalamus, and Reamy, in his classical paper on the treatment of puerperal eclampsia before the American Gynæcological Society in 1895, said "No doubt the acute cerebral anæmia, upon which the eclamptic attack immediately depends in a majority of cases, is due to cerebral vasomotor spasm, and this is due to toxæmia, and the toxæmia to cell activity of the mother and child in utero. The accumulation of these toxic products can only be prevented by securing activity of the kidney, skin and bowels." Lusk, who opened the discussion, entirely coincided with this view of the pathology. There seems to the writer no better way of increasing the flow of urine, and with it of toxins through the kidneys, than by giving copious enemata of salt solution by the rectum, more especially when the woman cannot absorb any by the stomach, on account of the vomiting. This was done in case I. to the extent of one gallon in sixteen hours. But in the meantime we want something to stop the convulsions, and it seems that nothing could be more evident than the promptness with which they were stopped by the veratrum in these three cases, there having been none in two cases, and the last convulsion taking place eight minutes after the injection of twenty-five minims of the tincture in the other case. Prof. H. C. Wood, after careful investigation, informs us that "veratrum lowers the pulse-rate, both by a direct action upon the muscles and by stimulating the inhibitory nerves. It diminishes the force of the heart beat by direct action on the cardiac muscle and produces a general vasomotor paralysis." Veratrum not only stops convulsions, but it produces copious diuresis and diaphoresis. Why it should do the former, when digitalis, which is one of the best of diuretics, is supposed to act by a contrary process, namely, by increasing arterial tension, is explained

by Prof. McCorkel by the veratrum overcoming the spasm of the renal vessels, which is even worse for the excreting process than low pressure; for with arterial spasm no urine can be excreted at all. This will also explain why many cases of eclampsia have been observed when there was no nephritis or at least no albumin in the urine; there was functional insufficiency rather than any organic disease of the kidneys. I have certainly noticed in all my cases that the urine passed by the woman just before or just after the convulsions was so insufficient in quantity in proportion to the solid matter it contained that on cooling without boiling it almost became solid owing to the precipitation of urates. My last case had been vomiting all day, so that no water could get into her blood, while the manufacture of poisons never stopped for an instant. So that one of the first things to do after administering veratrum is to start the rectum to work absorbing pints of salt solution. As Reamy has pointed out, veratrum possesses a great advantage over bloodletting in that, unlike the latter, it leaves the patient none the worse after the depressing effects of the veratrum have passed off. Nor need we be afraid to give a syringe-ful of twenty-five minims of the tincture, for in one of Reamy's cases to which he was called by Prof. Taylor there were given hypodermics of fifteen and fifteen and twenty minims, or fifty minims in all between a quarter to five and a quarter past six the same afternoon. The pulse fell to twenty-six at seven p.m.; rose to thirty-two at eight; to forty at ten p.m., and she made a good recovery. Moreover, we have in morphine or opium by hypodermic injection the means of quickly removing this alarming symptom. This is fortunate, because the opium itself is a pretty good remedy for cerebral vasomotor spasm, and the writer will in future, as he did in his last case, employ the mixed treatment and then wait at least an hour before repeating them, and only then if the convulsions have not been stopped. In that case the pulse had fallen in an hour from 180 to 100, and eight hours later it was fifty-six. In view of the satisfactory results in these three cases I must revise the opinions expressed in a paper before this society ten years ago, in which I reported all the cases of eclampsia I had had up to that time, and in which I advocated bromides and chloral for the nervous symptoms and the speedy emptying of the uterus for the relief of the kidneys. As regards bromides, I now agree with Edward P. Davis when he says: "No greater mistake can be made than to treat these patients with bromides, as is often done. Rest and increased excretion have invariably in my experience resulted in the disappearance of the symptoms." As regards chloral, I believe that many patients have died from it whose deaths were attributed to other causes, and I now very rarely use it. With regard to the immediate evacuation of the uterus, Lusk said at the

1895 meeting of the American Gynæcological Society: "My own experience is important chiefly in the line of speedy evacuation of the uterus. My experience has been that patients having puerperal eclampsia after the seventh month almost invariably die under medicinal treatment, and it has led me to adopt the method which seems to be becoming the universal practice, of emptying the uterus as soon as possible."

The writer, who followed Lusk, said: "I hope the general tone of the discussion will be in favour of the early emptying of the uterus whenever we feel that there is the slightest danger of puerperal convulsions. Whenever the urine is very much diminished in quantity and loaded with albumin, I think that it is almost criminal for us to remain idle until the kidneys have become permanently injured, when we possess the means of saving that woman's life."

But if veratrum continues to give such remarkable results, I will have to take back what I said before this society ten years ago, and at the Gynæcological meeting five years ago, and advocate leaving the uterus to deal with the foetus as it deems best, which generally proves to be an easy natural delivery of a dead child. An *accouchement force* is always a misfortune for the woman, and if we can stop the convulsions with veratrum and get the kidneys to work with salt solution per rectum, it is better to leave the delivery to nature.

APPENDICITIS SIMULATING TUBAL GESTATION.

BY

E. R. SECORD, M.D.,

Resident Physician, Montreal General Hospital.

Mrs. S., aged 24 years, married, was seen in consultation on Tuesday, August 20, 1901.

Complaints:—Swelling in the right side of the abdomen.

Personal History:—Patient has been married between two and three months and had always enjoyed the best of health, both before and after marriage.

She menstruated in normal course of events one week after marriage; the next period was missed. She had never had any cough, expectoration, pain in the chest, or other symptom of pulmonary disease, nor had she any abnormal symptoms connected with the generative system.

Family History:—Nothing of interest; no tubercular history.

Present Illness:—One week after the date of the usual menstrual period which had been missed, she was suddenly seized with violent sharp, "cutting" pains across the lower abdomen, accompanied by a feeling of weakness, so that she could hardly get home from a neighbour's where she had been visiting, a distance of only a block. Arrived at home, she applied hot fomentations and went to bed. The next morning she was seen by Dr. Bier and had a temperature of 99° F. This morning she passed a small quantity of blood per vaginam accompanied by a small piece of membrane, vouched for by the doctor. There was now but slight abdominal pain, but some tenderness low down in the pelvis; no rigidity or distension, and no tenderness at McBurney's point. No mass of any sort was found.

During the next ten days the patient kept to her bed and the "soreness" gradually disappeared, but as it did so she herself was able to outline a mass in the lower abdomen. Dr. Bier was away at this time, but on his return on the tenth day he could easily outline the mass, apparently situated deep in the pelvis and easily palpable per vaginam. It was but slightly tender. Temperature and pulse normal. Coming to the conclusion that he was dealing with an extra-uterine gestation, he asked me one week later to see the patient with him.

Present Condition:—Patient is a well nourished young woman who, however, says she has lost weight rapidly during her illness. Temperature, 98.5° F. Pulse, 70. Respirations, 24.

Respiratory system normal.

Circulatory system normal.

Gastro-intestinal system. - Appetite good, bowels constipated.

Abdomen:—Inspection. No distension, surface quite uniform, and no discolouration.

Palpation. Beginning one inch to the right of the middle line just above the symphysis pubes, and running outward and upward just internal to Poupart's ligament was a cylindrical mass three inches long and one and a-half inches broad. It was hard and insensitive and quite dull on percussion. No mobility was evident from external examination.

Generative system:—Perineum well preserved; cervix pointing distinctly to the left and uterus also pushed to the left; os soft and patulous. Fundus in normal position, being distinctly palpable just mesial to the inner end of the tumour. In the site of the right ovary and running down to the vaginal vault was a hard mass, which by bimanual examination could be slightly moved forward and backward and was directly continuous with the mass felt externally. Left appendages normal. The uterine arteries could be felt pulsating in the vaginal vault much more plainly than usual.

Differential Diagnosis:—Three conditions appeared to me to be the most probable:—(1) A tubal gestation which had primarily ruptured into the broad ligament. (2) An appendix abscess. (3) Suppurative salpingitis.

Considering (1) the absence of tenderness and (2) of fever except at the onset; (3) the situation of the mass, which was much lower than the ordinary appendix abscess, and (4) the history of passage of membrane; I considered the first condition as most probable and advised laparotomy for removal of the gravid tube.

The Operation was performed by me at the John II. Stratford Hospital, Brantford, Ont., on the second day afterward by incision in the median line under ether anæsthesia, and, to my surprise, the uterus and both appendages were perfectly normal, other than for the presence of a very small pedunculated subserous fibroid about the size of a bean which projected from the posterior aspect of the fundus. The mass was situated immediately above and surrounding, but not adherent to, the right ovary, and it was composed of the appendix sloughed off for the lower third, surrounded by the omentum and with five inches of the small intestine closely adherent to the mass.

The adhesions were carefully separated; the omentum, which was of a livid hue, ligated off; and the appendix, of which the proximal two-thirds was greatly distended by hard fecal concretions, was ligated and removed. A small fecal concretion about the size of a bean was found lying free in the sloughed off extremity of the appendix.

The patient made an uninterrupted recovery until the seventh day, when a faecal fistula formed which, however, soon closed. Menstruation quite normal in character commenced on the fourth day after the operation.

December 1, 1901. Patient says she never felt better in her life and has gained about twenty-five pounds since her operation.

In reviewing the facts of the case, the most probable explanation appears to be that there is in reality an intra-uterine gestation which had been interrupted, reflexly or otherwise, by the inflammatory condition of the vermiform appendix. This supposition best explains the absent menstrual period, the passage of membrane, the patulous condition of the os uteri, and the concomitant tumour formation. I perhaps owe an apology for offering a report of such a common condition as acute gangrenous appendicitis, but the chain of symptoms pointing towards the diagnosis of tubal gestation was so strong that it rendered the case of interest more from the standpoint of diagnosis than from that of the exact pathological condition which was finally found to be present. My thanks are due to Dr. Lockhart for much kind advice in preparing the report of this case.

TWO CASES OF ECTOPIC GESTATION.

BY

R. E. WEBSTER, M.D.,

Gynaecologist to the County of Carleton General Hospital, Ottawa.

Cases of ectopic gestation are so commonly met with in the larger gynaecological clinics as to be uninteresting except for some unusual circumstance. The two following cases occurring in the gynaecological service of the County Carleton General Hospital during the last year are interesting. Case No. I., on account of the early diagnosis and removal, due to the intelligence of the patient and the promptness of her family physician in diagnosing the case and calling in the specialist. Operation was performed at the eighth week and removal was accomplished before the patient had suffered any severe hæmorrhage, a result unfortunately uncommon in the practice of the gynaecologist.

Case No. II. is interesting because of the unusual absence of subjective symptoms, there being practically none, the only apparent trouble complained of being menorrhagia and pelvic tenderness. No decidua membrane was passed, to the knowledge of the patient or her physicians, there being little except the physical examinations to indicate the serious conditions present. This case is also interesting owing to the large amount of hæmorrhage which had occurred, apparently very slowly, causing no great shock or any attack of syncope, and in fact very little trouble to the patient other than anæmia and lassitude.

Case No. I.—Mrs. B., patient of Dr. R. B. MacKay, Manotick, Ont., æt. 30, primipara, formerly a trained nurse (which accounts for her early recognition of an abnormal condition of her menstrual flow), gave a history of a perfectly regular menstruation before and after her marriage (married two years) until six weeks previously, when she ran over her time two weeks, then began to have an irregular flow with slight pain in her left side at intervals; pain was never severe, however. Dr. MacKay, on being consulted, suspected extra-uterine pregnancy, and after examination, made a diagnosis of left tubal pregnancy, calling me in to confirm the same.

The pelvic examination showed the uterus normal in size, a slightly bloody discharge from the cervix, which was softer than normal. The left tube showed as a rounded mass, close to the uterus, movable and tender. Taking into consideration the previous regularity of menstruation, with the present irregular flow, pain, and enlargement of the tube, the diagnosis was satisfactory and the patient being advised of her con-

dition entered the hospital immediately. During the night preceding the operation she complained of pain in left side, much more severe in character than before, requiring a hypodermic of morphia to relieve it.

On opening the abdomen the following morning, the left tube was found covered by the omentum, which was slightly adherent to it. The tube was distended to about the size of an English walnut, the enlargement being about half an inch from the uterine end and the body of the uterus being well separated from the tumor. The uterine end practically formed a pedicle for the tumor. The round enlargement lay to the inner side; the ovary was small and atrophic. A slight perforation, apparently very recent, had occurred at the upper and anterior surface, and a few small clots escaped on separating the adhesions of the omentum which had been "doing guard at the breech."

The right tube showed a slight constriction about an inch from the fimbriated extremity. The right ovary was normal. Some slight hæmorrhage occurred on separating the omental adhesions from the tube. The tube was clamped, tied off, and removed successfully. On opening it foetal elements were easily demonstrated.

This case is interesting from the point of early diagnosis; the patient, having had a large gynæcological experience in one of the Brooklyn hospitals, recognized the possibilities early; and the abnormal menstruation occurring, her intelligence, with the early diagnosis of her family physician and his promptness in calling in the specialist, makes the case unique among my list of operations performed for ectopic gestation—the diagnosis of the conditions being made and removal accomplished not later than eight weeks after the occurrence of the pregnancy.

The patient made an uninterrupted recovery, leaving the hospital at the end of the third week.

CASE No. II.—This patient was kindly referred to me by Dr. A. Leslie Foster of this city. Mrs. S., æt. 24, multipara, has always been strong and healthy. Menstruation began at 15 years and has always been normal since the first three years of menstrual life, during which time she suffered from dysmenorrhœa. Has been married five and a-half years, two children, youngest three years old; no history of any miscarriages since.

Present illness began five weeks ago when menstruation began a week ahead of time, the flow lasting two weeks instead of the usual five days; no excessive flow, however, occurred. When the flow ceased a dragging pain was felt in the pelvic region, which gradually increased until she was forced to remain in bed. No other symptoms occurred

and one week later when I was requested to see the case by Dr. Foster, the patient complained only of soreness across the lower part of the abdomen.

Physical examination showed a mass to the right and behind the uterus, which was very tender; patient very anæmic; pulse normal; temperature, 99° F. She was sent into the hospital, and, on making an examination under anæsthesia, an irregular doughy mass was discovered in the posterior cul de sac; the right tube was enlarged and continuous with the mass. Hæmatoma from a ruptured tubal pregnancy was suspected, but the diagnosis was not very clear on account of the absence of symptoms.

The day following examination the patient began to menstruate and the flow lasted six days, quantity rather more than normal. After menstruation ceased patient was prepared for operation, and, on opening the abdomen and separating some coils of small intestine and omentum which were bound down to the upper and posterior surface of the uterus, an enormous blood clot was found, filling the cul de sac of Douglas. Free bleeding occurred when this was disturbed, but was quickly controlled by clamping the right tube which was very much distended. The right tube was removed and found to contain the remains of a tubal pregnancy situated about two inches from the uterine end. Rupture had taken place here and a hæmorrhage had occurred into the posterior cul de sac, a clot of probably a quart filling the pouch of Douglas and lower abdomen.

The left tube, which was tortuous and bound down behind the uterus, was freed from adhesions, the right tube tied off and removed, the mass of clot emptied, the abdominal toilet thoroughly performed, and the abdomen closed in the usual manner.

The patient made an excellent recovery, leaving the hospital three weeks after the operation. Taking into consideration the size of the blood clot, it seemed remarkable that no syncope, shock, or severe pain was experienced by the patient, her family physician being called in because of the dragging pain and soreness over the abdomen.

RETROSPECT OF CURRENT LITERATURE.

Surgery.

UNDER THE CHARGE OF GEORGE E. ARMSTRONG.

Treatment of Peritoneal Tuberculosis.

CHRISTIAN FENGER, M.D., Chicago. "Treatment of Tuberculosis of the Peritoneum." *Annals of Surgery*, Dec., 1901.

The author of this paper reviews our knowledge of this subject from 1825 to the present time and, in common with others, recognizes three forms of peritoneal tuberculosis:—

- (a) The ulcerative or suppurative form.
- (b) The serous exudate form.
- (c) The adhesive form.

Up to 1884 all cases of peritoneal tuberculosis which were reported as cured were regarded as mistakes in diagnosis. When König reported his first series of 4 cases with 3 recoveries in 1884, the surgical treatment of peritoneal tuberculosis became very popular, so that in 1889 he was able to report 131 cases, 74 of which were cured and 33 improved. Relapses after apparent cure or improvement are common, and Von Winckel does not consider that a patient has recovered unless he has survived five years.

In considering the value of operative treatment in the various forms of peritoneal tuberculosis as a therapeutic agent and not as a necessary surgical procedure in such complications as obstruction or perforation, the author quotes Telcky as forming the following conclusions after a critical study of the literature on the subject:—

- (1) In the miliary, serous, exudative form, operation is followed by the best results.
- (2) In the ulcerative form, an unfavourable operative prognosis must be given.
- (3) In the adhesive form it is difficult to give definite indications for operation, but it is probable that operation is advisable when, after

prolonged conservative treatment and observation, there is no tendency towards recovery.

In serous cases where a primary operation has failed to cure a second or even a third or fourth has been followed by success.

Regarding the technique of the operation, incision, withdrawing the fluid, sponging the peritoneal cavity dry, and closing the wound, give on the whole the best results.

Drainage is undoubtedly frequently followed by faecal fistula, and attempts at successfully excising tuberculous ulcers of the bowel are usually followed by a similar sequela.

Fenger closes his paper by quoting Borchgreviuk's views, which are opposed to operative treatment *in toto*, as may be gleaned from the following quotation:—

“Are there any cases of tuberculous peritonitis for which laparotomy is the only means of cure or in which laparotomy is the best method of treatment.” Brochgreviuk does not hesitate to state that even the serous tuberculous peritonitis is a territory which surgery must hand back to the internal medicine clinic, with thanks for the splendid opportunity which a misunderstanding gave to the profession by means of laparotomy to study tuberculosis in one of the large cavities of the body.

Operative Treatment of Paralytic Club Foot.

ROYAL WHITMAN. “The Operative Treatment of Paralytic Talipes of the Calcaneous Type.” *Amer. Jour. of the Med. Sci.*, Nov. 1901.

The author describes the primary deformity as well as the secondary deformities in this important disability, and criticizes the various mechanical devices employed to correct the deformity and overcome the difficulty in locomotion, as well as the surgical procedures usually undertaken to assist the patient. He shows that the insecurity in walking, though caused directly by the paralyzed “calf muscle,” is greatly exaggerated by the fact that the weight must be supported on the astragalus perched upon the displaced os calcis, and the instability is of course increased when there is lateral distortion of the foot.

The treatment which he recommends consists in the removal of the astragalus, which allows of sufficient backward displacement to transmit the body weight nearer towards the centre of the foot. Tendon shortening, tendon transplantation, and arthrodesis are subsidiary measures of importance.

Astragalectomy is performed under the bloodless method, through a long curved incision from the tendo Achillis to the head of the astragalus, extending below the external malleolus. After excising

the astragalus, the cartilage is removed from all exposed bone, the tendo Achillis shortened by Willett's method, and the proximal ends of the two peronei muscles are inserted into the tendo Achillis, after the manner first described by Nicoladoni. The wound is closed and the foot is displaced backwards, so that the internal malleolus is brought into contact with the scaphoid bone, and a plaster bandage applied, fixing the foot in an attitude of slight plantar flexion.

The patient is advised to wear a brace of simple construction, consisting of two lateral bars passing in front of the malleoli and united by a sole piece at the metatarso-phalangeal articulation, as well as in the upper end by a steel bar running in front below the tubercle of tibia. When bony ankylosis does not follow the operation, the wearing of some such splint would be very necessary.

Treatment of Renal Calculus.

J. HUTCHINSON, JR., F.R.C.S. "On certain points in the Operative Treatment of Renal Calculus." *Brit. Med. Jour.*, Oct. 19, 1901.

Hutchinson, in a paper read before the surgical section of the British Medical Association, disapproves of the unnecessary extensive incisions into the kidney in nephrolithotomy and points out the advantage of using X-rays in locating stone in the kidney and ureter. He summarizes his views as follows:—

(1) The X-rays (except perhaps in stout subjects, or in the case of very small stones) enable an exact diagnosis of the size, position, and number of renal calculi, to be made.

(2) They enable the surgeon, in performing the operation of nephrolithotomy, to do so with the least possible injury to the kidney, and to dispense with bringing that organ on to the surface of the wound.

(3) Suitable incisions, made directly over the renal calculus through the renal pelvis, are to be preferred when practicable. Such wounds of the pelvis heal well.

(4) Before the operation it is more important to get the urine into a healthy condition. The administration of urotropine before and afterwards is of much value.

(5) Renal calculi, however small, should be operated on as soon as they are positively diagnosed. The danger to the kidney structure and the patient's life bears no relation to their size.

Primary Pneumococcus Arthritis.

DUALEY B. ALLEN, M.D. and CABOT SUEL, M.D. "Pneumococcus Arthritis Primary in the Knee-Joint." *Annals of Surgery*, Oct., 1901.

According to the authors, but three cases of primary pneumococcus arthritis have been recorded, the present being the fourth case.

"The patient was a female, 40 years old, who was seized with "cramps" in the abdomen three or four days previous to her admission to the hospital. On the following day she was seized with pain in the left knee, which was relieved by the exhibition of salicylate of sodium for twenty-four hours. On the third day the knee became more swollen, and on the fourth day the joint was markedly distended and tense, temperature, 98.4° F. Aspiration of the synovial sac showed thick yellow pus.

Free incision with irrigation and drainage was performed, but the patient's condition did not improve, and amputation of the thigh at the junction of the lower and middle-thirds was carried out two days afterwards. The patient died ten days afterwards with marked symptoms of sepsis.

Examination of the joint pus showed pneumococcus as well as from the stump just previous to death.

In citing Cave's collection, recorded in the *Lancet* for January, 1901, they show that in previously recorded cases, cultures of the pneumococci were obtained from other organs, whereas in the present case no pneumococci were discovered, other than in the affected tissues of the stump. The absence of the infecting organism from the blood and organs would seem to show that death was due to toxæmia. So far as reported cases go, the mortality has been 75 per cent. They believe that the organism is carried by the blood.

A. E. Garrow.

Ophthalmology.

UNDER THE CHARGE OF FRANK BULLER,

Ocular Manifestations of Gonorrhœa.

J. B. LAWFORD, F.R.C.S. "The Relation of Gonorrhœa to Diseases of the Eye (Excluding Purulent Ophthalmia). *Proceedings Brit. Med. Association, Aug., 1901.*

The sequelæ of gonorrhœa are almost as baneful in their character as those of syphilis. Although the gonococcus is clearly the active agent in the production of lesions in the genito-urinary tract, yet, its rôle in reference to gonorrhœal infection and the distal or so-called metastatic manifestations, is less fully determined.

In some cases the organism has been detected in the blood, in the fluid within joints, in exudations around joints, in the endocardium, and in other tissues. In other cases it has not been found; while yet in others a mixed infection has been noted, as evidenced by the presence of staphylococci and streptococci.

Mr. Lawford holds that the frequent association of gonorrhœal arthritis with iritis or with endocarditis, etc., is not that of cause and effect, but rather accidental. The materies morbi has certain seats of election in the tissues, and may appear in several such tissues at or about the same time. Fournier's patient was a case in point, the man had four attacks of gonorrhœa. During the first attack he exhibited ocular lesions only, during the second and third arthritic and ocular lesions, and during the fourth arthritis only.

The ocular lesions exclusive of the purulent ophthalmia, are a mild form of conjunctivitis, scleritis, episcleritis, iritis, irido-cyclitis, and neuro-retinitis. This form of conjunctivitis is by many held to be metastatic in origin, while some few consider it as an infection by gonorrhœal poison, which has been greatly attenuated. Iritis may or may not be associated with arthritic lesions, as also may the other lesions mentioned. All these lesions have a marked tendency to relapse or recur, and leave behind them a marked vulnerability of the tissues, which may persist for a long time.

In the discussion which followed on the reading of this paper, Darier of Paris mentioned that he had seen iritis follow gonorrhœal ophthalmia and thought it was due to gonorrhœal infection.

Mr. Lawford also mentioned the occurrence of retinitis, apparently,

thrombotic in character, and neuro-retinitis, also suppurative keratitis, in cases of severe pyæmic character.

The question of the nature of the systemic infection is in doubt. It has yet to be decided whether it is a pure gonococcus infection, or a mixed infection due to gonococci and pyogenic micro-organisms, or yet again a toxæmia induced by the poisonous products of the gonococcus, manufactured in the tissues primarily attacked.

Toxic Amblyopia.

W. ZENTMAYER. "Alcohol-Tobacco Amblyopia with Retinal Hæmorrhages." *Annals of Ophthalmology*, July, 1901.

J. HERBERT FISHER. "Influence of Nicotin on Ganglion Cells; its bearing on the Pathology of Tobacco Amblyopia." *Ophthalmic Review*, June, 1901.

J. H. PARSONS. "Note on Pathology of Toxic Amblyopia." *Brit. Med. Jour.*, June 8, 1901.

Zentmayer's deductions are drawn from cases observed by himself and others, recorded by various authorities. Sclerosis of the retinal vessels follows on the abuse of alcohol, and the diseased walls of the vessels give way under the increased vascular tension. The influence of tobacco alone in causing these changes could not be demonstrated.

Fisher bases his theory on the result of Langley's experiments with nicotin. Langley found that either the injection of nicotin into a vein, or the local application of it to an exposed cervical ganglion, had the effect of destroying the conduction of impulses. Langley further concluded that nerve impulses, whether motor, secretory, vasomotor, or inhibitory, are arrested in an animal under the nicotin, provided they have to traverse ganglion cells.

Fisher holds that these results have an important bearing on the subject of tobacco amblyopia. If it be true that the nerve fibres from the macula traverse ganglion cells, *en route* to the cerebral cortex, and the fibres from the periphery of retina pass direct, then the action of nicotin in causing the central scotoma is clearly perceived. Several authorities already hold that the scotoma is not due to neuritis of the macula bundle of fibres primarily, but to a degeneration of the ganglion cells of the macula.

Parsons mentions the use of Nisal's method of staining in the detection of degeneration of the retinal ganglion cells in tobacco amblyopia. Parsons finds that nicotin acts essentially upon the synapses of the preganglionic fibres around the nerve cell, not upon the nerve cell itself.

The action of nicotin is a double one:—(1) vasomotor constriction,

hence the effect most marked in the sparsely supplied macular region.
 (2) Paralytic upon the synapses of the cone fibres, or of the inner granules, or of both.

Periotomy in Various Eye Diseases.

T. PRIDGIN TEALE. "Periotomy in Episcleritis, Iritis, Herpes Ophthalmicus, and Purulent Ophthalmia." *Lancet*, March 30, 1901.

Teale finds that by laying bare about one-quarter of an inch of the sclera, immediately around the cornea, and dividing all vessels entering or emerging from the sclera, he is able to exert a markedly curative influence in obstinate cases of diffuse congenital keratitis and the disease mentioned above. The result in a case of subacute purulent ophthalmia is very remarkable, to say the least.

It was a congenital infection of several days duration, presenting marginal ulceration of the cornea and opacity completely obscuring the pupil. Periotomy was performed and the progress of the disease at once arrested, so that in a week the child was sufficiently improved to return home. Six months later it was difficult to detect which had been the affected eye.

Treatment of Blinking.

WOLFFBERG. *Wochenschrift f. Therapie und Hygiene des Auges*, Mar. 28, 1901.

Wolffberg refers to those cases of excessive blinking which are more of the nature of a neurosis or bad habit. The other varieties, which are due to conjunctivitis and similar disorders, can be easily relieved. The type under consideration is mainly found among anæmic and neurotic children. Wolffberg finds that by simply occluding one eye with a bandage for several days the twitching is overcome in some cases and ameliorated in others. The explanation given is that blinking interferes so greatly with vision, when only one eye is in use, that the child exerts all its will power to overcome it and often succeeds. It is difficult to blink and whistle at the same time; and one can often notice in cases where the blinking is not due to an organic eye lesion that on attempting to whistle, the patient ceases to blink.

J. W. Stirling.

Pathology.

UNDER THE CHARGE OF J. GEORGE ADAMI.

The Relationship of Cholelithiasis to Disease of the Pancreas.

- FLEXNER. "On the Occurrence of the Fat-Splitting Ferment in Peritoneal Fat-Necroses and the Histology of these Lesions." *Jour. of Exper. Med.*, Vol. II., 1897.
- "Experimental Pancreatitis, I." Contribution to the Science of Medicine. *Welch's Festschrift*, 1900.
- "Experimental Pancreatitis, II." *University of Pennsylvania Med. Bull.*, August, 1901.
- OPIE. "Experimental Disseminated Fat-Necrosis." *Welch's Festschrift*, 1900.
- "The Relation of Cholelithiasis to Disease of the Pancreas and to Fat-Necrosis." *Amer. Jour. of the Med. Sciences*, Jan., 1901.
- Ibid.* *Jour. Exper. Med.*, 1901.
- "The Etiology of Acute Hæmorrhagic Nephritis." *Johns. Hopkins Hos. Bull.*, Vol. XII., 1901.
- HALSTEAD. "Retraction of the Bile into the Pancreas, a Cause of Acute Hæmorrhagic Pancreatitis." *Ibid.*, Vol., XII., 1901.
- ILL, E. J. "Acute Pancreatitis and Fat-Necrosis." Society Report. *Amer. Assoc. of Obstet. and Gyn., American Medicine*, October 26, 1901.

That some relation had been held to exist between cholelithiasis and pancreatitis for a reasonably long time previous to Opie's work, is a fact mentioned in his papers. What the relation was and how close it is he has determined. The general idea held was that when the two conditions co-existed the pancreatitis was the result of inflammation set up in the gall-passages and spread from there by the pancreatic ducts to the pancreas. Lancereaux thought that a stone in the papilla of Vater could occlude the ducts, and produce conditions favourable for the growth of micro-organisms. Ebstein discussed the opportunity of a stone lodged in the gall-ducts, near the bifurcation, to occlude the duct of Wirsung.

In Flexner's experiments, 1897, detailed in his paper "On the occurrence of fat-splitting ferment in peritoneal fat-necrosis and the histology of these lesions," he did one experiment which might have thrown some light on the subject, had the subject been in mind. At

that time he tied the pancreatic duct in a cat and produced a pancreatitis, but, it is true, no fat-necrosis except that noticed at the site of the ligature.

In a later paper in Welch's Festschrift, he gives the results of the injection of various materials—acids, alkalies, suspension of bacteria and fungi—into the pancreas through the ducts, with the result that he produced fat-necrosis in nearly all the cases. The suspension of bacteria, however, produced none. In the same volume (Welch's Festschrift), Opie contributes his first paper on the subject, and in this communication he gives details of very suggestive experiments. In these experiments he ligated the ducts of the pancreas and in some cases was able to demonstrate fat necrosis and in some none. But if, after tying the ducts, he injected pilocarpin into the animal to stimulate secretion, he produced widespread necrosis. He also transplanted the ducts into subcutaneous tissue and in that tissue produced fat-necrosis. Following these experiments a case came to him from the medical wards by way of the surgical operating room which suggested at least, the relation between gall-stone disease and pancreatitis. The patient had had a history of cholelithiasis and the attack, following which he died, was a typical one of colic. The autopsy showed the presence of a stone in the common duct, and this so placed that it might easily occlude the duct of Wirsung. This case with seven others gleaned from the literature served as a basis for his theory.

In the past year another case went to autopsy that was still more suggestive. This was one of acute hæmorrhagic pancreatitis. After a careful dissection a stone was found in the diverticulum of Vater that was but 3mm. in diameter but which was apparently of sufficient size to occlude the passage. The case strengthened Opie's theory and formed the basis for that of Dr. Halstead, which was that a stone lodged in the papilla could act as the plunger in a hydraulic ram and so assist in the forcing of bile into the pancreas, the force being that furnished by contraction of the gall-bladder.

The idea of the rôle that the bile played, Opie had mentioned some time before the publication of his last experiments at a meeting of the Hospital Medical Society. In his paper Opie describes the experiments which he devised to demonstrate his theory. He injects bile in amounts varying from 3 to 5 em. through the pancreatic duct into the pancreas, either through an incision into the duct or after opening the duodenum through the papilla of Vater. In his seven experiments he was able to demonstrate a hæmorrhagic condition of the gland with abundant fat-necrosis. He concludes that a stone in the diverticulum of Vater may obstruct the flow of the bile

into the duodenum and cause it to pass towards and into the pancreas. That because of anatomic conditions this may be impossible, he also discusses. That the bile is the active agent in the cause of the pancreatitis there seems to be no doubt.

But acute hæmorrhagic pancreatitis may not be the only result of blocking of the pancreatic duct. This is stated in the conclusion of a paper, also by Opie, on "The relations of cholelithiasis to disease of the pancreas and to fat-necrosis." In the summary of this paper he says that, as the result of occlusion, acute pancreatitis may result with death in forty-eight hours, or that a suppurative pancreatitis may result with death late, weeks or months after the onset, or finally, that a chronic pancreatitis may be caused.

The latest experiments in the subject come from the laboratory of Flexner at the University of Pennsylvania, and are a continuation of his former work, and confirm Opie. He shows that gastric juice also will produce pancreatitis, and that blood alone will cause a chronic form of the disease. Blood serum alone will not give the result. So much for the experimental part.

In a late number of *American Medicine* is the report of a case that will serve as a further substantiation of the theory. Ill reports a case in which there was a history of gall-stones. In the last attack the symptoms were much more severe, and obstruction of the bowels was simulated. At operation the pancreas was found to be diseased and the wound was drained. The patient did well until seven weeks after operation, when she had a relapse from which she died three weeks later. At autopsy stones were found in the gall-bladder and the pancreas was entirely replaced by fibrous tissue.

The experimental work has been admirably carried out and the theory has become beyond reasonable doubt a fact. But Voltaire is still apropos "The bile makes us sick and bilious, but without the bile we could not live."

P. G. Woolley.

Reviews and Notices of Books.

INTERNATIONAL CLINICS. A Quarterly of Clinical Lectures and Specially Prepared Articles on Medicine, Neurology, Surgery, Therapeutics, Obstetrics, etc., etc., by leading members of the Medical Profession throughout the World. Edited by HENRY W. CATTELL, A.M., M.D., Philadelphia, Eleventh Series, 1901. Philadelphia, J. B. Lippincott Company. Canadian Agent, Charles Roberts, Montreal.

Volume I. The first volume of the Clinics for 1901 contains a great deal of matter of practical interest to all classes of the profession. Where there is so much valuable material contained in short practical papers it is almost impossible to do justice to a book in a review of reasonable length, and one can therefore only notice some of the articles. Hallopeau (Paris) gives a good general review of the numerous methods of treating eczema; his article contains many new suggestions which should prove of benefit to the physician in a stubborn case. H. Batty Shaw (London) furnishes some interesting statistics of 100 cases of Aortic Aneurism. Campbell Williams has an article on Gonorrhoeal Rheumatism. The use of cocaine as an analgesic in obstetrics is described by Dolèris of Paris and a report given of 25 cases, while the advantages and otherwise of the method are fairly discussed. To the laboratory worker Walmsley's article on photomicrography will be found most useful, as he gives directions for the use of the simpler forms of microscope as well as those made specially for this work. The volume closes with a review of the progress of medicine during the year 1900, by N. J. Blackwood. The number is well illustrated and creditable to both publisher and contributors.

Volume II. The second volume of the series contains several articles on cocaine analgesia by lumbar puncture, both from the view of general surgery and of obstetrics, Dolèris claiming for it an oxytocic effect. Schamberg (Philadelphia) gives a description of the present epidemic of smallpox in an article beautifully illustrated with numerous plates which show better than any description could do, what are the characters of the eruption. There are three lectures on locomotor ataxia, Frenkel of the Freihof Sanitarium in Heiden, Switzerland, describing his movement therapy, Allen Starr of New York the disease in general, and Fournier of Paris, its detection in the earliest stages. John R.

Wathen of Louisville discusses the operation of splenectomy and reports a successful cure. Blackader of Montreal discusses the acute dilations of the heart met with in childhood and adolescence. At the end of the volume Newman Dorland furnishes a list of the newer medical words with their definition and pronunciation.

Volume III. opens with a very valuable article, well illustrated, on phototherapy after Finsen's methods by Valdemar Bie of Copenhagen. The plates, besides showing the apparatus in use, give a number of the results of treatment in cases of lupus vulgaris, results certainly not obtained by any other method in this disease. Useful and rather out of the ordinary run is Routh's article on the influence of pregnancy on the prognosis and treatment of coexisting acute and chronic disease, taking up seriatim the diseases in which by pyrexia or toxæmia the course of pregnancy may be influenced. "Cerebellar Degeneration due to Intestinal Intoxication" is the rather startling title of an article by Augusto Murri of Bologna. The diagnosis is based on the fact that cerebellar degeneration was found post mortem and atrophy of the intestinal mucous membrane was the only other pathological lesion found. No attempt is made, and perhaps wisely, to explain why the poison from the intestines selected only certain cells in the cerebellum for its action. The portion devoted to surgery contains several interesting lectures on the affections of the gall-bladder and appendicitis.

These three volumes mark a distinct improvement in the quality of the contributions over the late numbers of the *International Clinics* and the editor and his collaborators should meet with increased encouragement, in that it should still further increase the popularity of this valuable quarterly.

Society Proceedings.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, November 15, 1901.

JAMES PERRIGO, M.D., PRESIDENT, IN THE CHAIR.

Dr. C. A. Peters, of Montreal, was elected a resident member. Drs. P. T. Woolley and G. A. Charlton, Fellows in Pathology, McGill University, and Dr. John Collison, Resident Physician, Civic Hospital, were elected temporary members.

Intestinal Obstruction by a Foreign Body.

Dr. J. J. Ross read a report of this case and Dr. D. D. MacTAGGART demonstrated the pathological specimens from the post-mortem, which he also described. See page 933 of the December number.

A Case of Anthrax.

Dr. E. M. von EBERTS reported this case, exhibiting slides under the microscope showing the bacilli in the excised sore. The report will be published in the February issue.

Dr. G. E. ARMSTRONG stated that the points which are usually recognized in anthrax cases were very well brought out in this one. The appearance of the point of infection very closely resembled a dark nœvus. The surrounding infiltration was not deep, the vesicles were clear and filled with a dark hæmorrhagic fluid, while there was the characteristic absence of tenderness. One sees sometimes mentioned the difficulty of differentiating the primary sore of anthrax from a carbuncle or furuncle, but here one could handle the sore freely without causing any pain. The most striking feature of the man's general condition when he came in was the extreme degree of collapse, which the speaker compared to the algide stage of cholera. The patient was blue, livid, cold, with practically no pulse. The purpuric condition described by Dr. von Eberts was more marked than is usually the case, the discoloration was in stripes across the back and abdomen, covered a large surface and looked just as though the man had been squeezed between heavy weights. Another feature was the bright scarlatiniform eruption, which looked like an enormous area of spreading erysipelas.

The treatment undoubtedly had been eminently successful, the early incision controlled the infection and recovery practically dated from this.

So far as Dr. Armstrong knew, this was the first undoubted case of anthrax on the records of the Montreal General Hospital.

DR. G. G. CAMPBELL asked if the diagnosis could be made from the discharge from the sore or if it was necessary to excise it in order to demonstrate the bacilli. He had recently had come to him a man who was at work sorting hides and who presented a sore on the wrist without much local infiltration or tenderness but with enlarged glands at the elbow and axilla and inflamed lymphatics. An examination of what could be squeezed from the sore showed the presence of the ordinary cocci only, and he had questioned whether one could exclude anthrax in this manner.

DR. VOX EBERTS replied that there had been no difficulty in demonstrating the bacilli in the scrapings and in the fluid from the vesicles, which, however, was not pus.

The Relation of Abdominal Hysterorrhapy to Subsequent Pregnancy.

DR. F. A. LOCKHART read this paper, of which the following is a summary :—

The effect upon subsequent pregnancy of abdominal hysterorrhapy depends almost entirely upon the method of performance of the operation. The suture should include the urachus and a portion of peritoneum on each side of the incision, the deeper structures, such as fascia and muscle, being left severely alone. It should be passed across the anterior surface of the uterus just in front of a line joining the two uterine extremities of the round ligaments. In time the uterus draws down a tongue of peritoneum which forms a false ligament, thus allowing the organ to become a mobile organ. This was well shown in two cases where the abdomen was opened after women had given birth to children, and the ligament in each case measured about one by three centimetres.

The following is a list of the cases of Dr. Lockhart's which he had been able to trace, with one exception, where pregnancy followed the operation.

Case I.—Mrs. N. P., 38 years of age, was subjected on February 2, 1900, to curetting, amputation of the cervix, double colporrhaphy and ventro-fixation. Previous to this she had given birth to three full term children and had miscarried twice. All of her labours had been extremely difficult and painful, the first two being terminated by the high application of the axis traction forceps, the application and contraction being interfered with by a certain amount of pelvic contraction.

On October 1, 1901, Dr. D. J. Evans confined her of a large, full-term

child, the labour again requiring high application of forceps on account of the retention of the head at the pelvic brim after full dilatation had occurred. The patient stated that this had been her easiest labour, and it was followed by no complications, the uterus returning to the normal position of slight ante flexion.

Case II.—Mrs. F. W. B., 28 years of age, underwent curetting, posterior colporrhaphy, igni puncture of both ovaries, and hysterorrhaphy in April, 1899. She had already been delivered of one full-term child by the high forceps operation and had once miscarried.

In December, 1900, Dr. A. D. Stewart delivered her of a large full-term male child, the labour being a very easy forceps delivery. The after pains were slight, her convalescence was interrupted, and the uterus returned to good position.

Case III.—Mrs. M., aged 25 years, had curetting, left oöphorectomy and hysterorrhaphy performed in March, 1899. Previously she had given birth to two full-term children, nature of labours unknown. In the following February, Dr. W. A. Molson confined her of an eight-month child, the premature labour being caused by a very severe fall. The delivery was natural and the convalescence was uneventful. There had been no disturbance of any kind during her pregnancy and the uterus was in its usual position after labour.

Case IV.—Mrs. S. (reported by Dr. W. C. Mills, of Chateauguay, N.Y.), had an uneventful pregnancy terminating naturally after an hysterorrhaphy.

Case V.—Mrs. W., secundipara, in November, 1900, underwent curetting, repair of the cervix and perineum and ventro-fixation.

DR. J. C. CAMERON gave an account of the subsequent history of the last patient, of which the following is an abstract.

Mrs. W. was discharged cured from the Montreal General Hospital on December 19, 1900, her last menstrual period began on January 10, 1901, and lasted three days.

Pregnancy.—No special symptoms except a dull dragging pain in the right side when she turned in bed or lay on her right side; this pain disappeared when she lay on her back or turned on her left side.

Labour.—First symptom was rupture of membranes and the escape of a large quantity of water at 11.30 p.m. on October 14th. Two hours later she was complaining of a sharp cutting pain over the pubes and a dragging sensation in the hypogastrium when she lay on her right side. The abdomen was much distended, more prominent on the right side; back of the foetus could be palpated anteriorly and to the left, and the foetal heart was heard on the left side. Vagina was hot and dry; cervix was high up and held close against the pubes; os soft and patulous;

presenting head could be felt when the finger was pushed through the cervix. No labour pains, temperature normal, pulse 95. Patient's condition remained unchanged on October 15th and until noon on the 16th, when strong pains set in. She was brought to the maternity at 1.30 p.m. At 7 p.m., os was well dilated and pains strong and bearing down. The head lay transversely and flexion was not good; sutures and fontanelles obliterated and riding of the right parietal bone. The head was not impacted, for the finger could be passed easily behind and to the sides of it. Fetal heart sounds were strong. At 9.30 the head seemed to descend slightly with a jerk, and then came to lie in the oblique diameter instead of the transverse. The occiput lay in the right side of the pelvis, although the back was turned towards the left, and the fetal heart sounds were heard on the left side. As no progress was being made forceps were applied at 10 p.m., and a slight traction downward and backward brought the head down upon the perineum; the blades were removed in three minutes. The cord was not pulsating and the child was dead. It weighed eight pounds. The placenta was high up, and as it descended to the L.U.S. the fundus was felt to spring forward and bend towards the pubes, and a strong thick band was felt holding it firmly in that position.

Puerperium was uneventful; during the first week the fundus was drawn markedly over to the left side, and the fixation ligament could be felt directed upward and backward, from the abdominal wall, but when the uterus became a pelvic organ the ligament was directed downward and backward. The most comfortable position for the patient was on the back or left side.

In this case there was marked asynclitism, the head being forced down upon the pubes driving the left parietal bone beneath the right parietal. The direction of the uterine force was to the front and not in the axis of the brim, consequently the expelling force was wasted for the most part against the pubes and the head did not descend. The same faulty direction of the uterine expelling force caused the great overlapping of the parietal bones which produced so great a compression of the brain that the child perished. In some of the reported cases the anterior wall of the uterus was prevented from developing by the fixation ligament and the posterior wall stretched out enormously and formed the bulk of the uterine covering of the fetus. The difficulty of delivery in such cases arose chiefly from the presenting head being driven back against the promontory. In the present case the anterior wall grew and took its share in the formation of the fully developed uterus, but the pull of the fixation ligament prevented the direction of the expelling force from being exerted in the proper direction and the head was forced down anter-

iorly upon the pubes. A slight pull of the forceps accomplished easily what the most violent continuous uterine action had failed to do.

By palpation and auscultation of the abdomen the diagnosis would have been L.O.A., by palpation of the excavation it was R.O.A. How could the back lie to the left side and the occiput be engaged in the right side of the pelvis? The only explanation is that the head was twisted upon the body, which was held firmly clasped between the anterior and posterior uterine walls and prevented from rotating so as to accommodate itself to the position of the head engaged in the pelvis. The fixation ligament prevented the uterus from turning towards the right side, and as a consequence a decided twisting of the neck took place.

Ventro-fixation is one of the best means available for the relief of certain forms of uterine displacement which make a woman's life miserable and unfit her for performing her duties as a wife and mother. Among the poor who are compelled to work harder than those in easier circumstances, this operation seems to be of the greatest service, but when it is performed upon child-bearing women great care should be taken to make the ligaments in such a way as to interfere as little as possible with subsequent pregnancy and labour. From the study of this case it seems to be of prime importance that the ligament be not too high up on the fundus and that it be as nearly as possible in the centre in order that the uterus may not be rotated to either side and held attached there.

In the management of a subsequent pregnancy one should be prepared to interfere at any time and induce labour. It is probable that in this case the child would have had a better chance if labour had been induced at the end of the eighth month. In the management of labour too much should not be expected of the uterus, which is so heavily handicapped, and the early use of forceps would seem to be the wisest course of procedure in case of difficulty or delay. Regarding the influence of ventro-fixation upon subsequent pregnancy and labour, we are justified in concluding that the operation does not necessarily affect either injuriously, but it may do so, and that the size and situation of the ligament are the chief determining factors.

DR. A. L. SMITH thought that all the troubles that had followed the performance of ventro-fixation had been due to the fixation ligament being formed at the wrong place, so that it interfered with the proper development of uterus during pregnancy. He stated that of late years he had been doing Alexander's operation in preference to this more often than he had formerly done. As a suture material he had at first used silk, then silk-worm gut, and latterly chromatinized catgut, and this he preferred.

Stated Meeting, December 6, 1901.

JAMES PERRIGO, M.D., PRESIDENT, IN THE CHAIR.

Dr. Walter L. Barlow, of Montreal, was elected a resident member.

Mitral and Tricuspid Valvular Disease.

Dr. G. A. BROWN reported this case and exhibited the heart. To be published later.

Three Cases of Puerperal Convulsions Treated with Veratrum Viride.

Dr. A. LAPHORN SMITH read this paper. See page 30.

Dr. REILLY asked Dr. Smith how he was able to estimate 20 per cent. of albumin. He had never seen anything like 20 per cent. of albumin, the usual amount being two or three parts per thousand.

Dr. G. A. BROWN stated that recently he had seen quite a number of favourable reports of veratrum viride in eclampsia. He believed that the reason that drugs given by the stomach in this condition were generally useless was due to want of absorption. He had lately had two cases of eclampsia occurring just after delivery in which 30 grains of chloral given per rectum had been beneficial. With regard to saline injections into the bowel, he thought a difficulty arose after labour from the tendency of the uterus to relax if the binder was not used and it was impossible to give a large amount of fluid by the bowel if the binder was not removed. A better plan would be to introduce normal saline subcutaneously in the region of the breast.

Dr. F. R. ENGLAND asked Dr. Smith what his practice was in regard to convulsions occurring before labour. In his own experience he had made a practice of emptying the uterus as soon as possible, and the resulting hemorrhage had satisfactorily relieved the kidneys. In these cases of convulsions after delivery he thought the rational method of treatment was to favour elimination by acting on the skin, and pilocarpin had always been a favorite remedy with him for this reason, as also the hot pack and purgation, with morphia and chloral by rectum. In one case a few years ago the patient developed both mania and convulsions and was in a desperate condition, an intravenous injection of normal saline into the arm had been followed by prompt action of the kidneys and she made an uninterrupted recovery. Dr. England did not think we should look upon any drug as a specific remedy in all cases of eclampsia.

Dr. SMITH, in reply, said that he had estimated the amount of albumin by coagulation in a tube, 20 per cent. being the bulk of the whole tube coagulated. With regard to the injection into the breast, he had found that it was apt to be followed by complaints of pain and soreness

for some days afterwards, and for this reason preferred the rectal injection. He did not see the necessity of using a binder at all, and often injected opium before using the saline enema in order to help retain it in the bowel. As to what should be the treatment of a case occurring before labour, he had been in the habit of emptying the uterus, but after the successful case just reported, in future he should try the effect of veratrum viride before resorting to this procedure.

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Stated Meeting, December 20, 1901.

JAMES PERRIGO, M.D., PRESIDENT, IN THE CHAIR.

Election of Officers for Session 1902.

The following were elected officers for the year 1902 :—

President—Dr. G. E. Armstrong.

Vice-President—Dr. H. S. Birkett.

Secretary—Dr. A. T. Bazin (re-elected).

Treasurer—Dr. J. M. Jack (re-elected).

Trustees—J. Perrigo, F. J. Shepherd and G. A. Brown.

Living Cases—Subastragaloid, Modified Pirogoff and Lisfranc Amputations.

DR. G. E. ARMSTRONG gave the following account of these cases :—

I present here to-night three varieties of amputation. This first patient had both his feet injured in an accident two years ago. I was able to do a Lisfranc operation on the right foot and a modified Pirogoff on the left. He came back now to have a silver wire suture, which had given rise to a sinus, taken out. He says he can walk on the modified Pirogoff with the same ease and comfort with which he does on the Lisfranc. The bony union was perfect. The man has been employed by the railway company since, taking care of lights, signals, etc., and has had to climb a ladder to do this work.

The other patient is an Italian from the Northwest, and met with an accident of which a clear history cannot be obtained, but which resulted in an injury to both feet. He came to hospital with areas of pus distributed over the bones of the foot, so that after consultation it was considered necessary to sacrifice these bones. He had also a long incision on the sole of the foot which interfered somewhat with the formation of flaps. However, I did a subastragaloid amputation, and although only ten days have elapsed, the result so far is very encouraging. It is the first time I have done this operation, but it is one in favour with some of the London surgeons. Its advantage is in giving an increased length of stump together with motion of the ankle joint. The two patients

together give a good opportunity of comparing the modified Pirogoff with this operation, and up to the present the result is in favour of the subastragaloid amputation.

DR. F. R. ENGLAND asked whether there was not danger of the astragalus slipping out in the subastragaloid amputation and causing trouble. He was under the impression that it was not a safe stump on this account.

SIR WILLIAM HINGSTON thought that in amputations of the feet the method was a matter of choice. His own view was if he could get a Lisfranc to do it, but when it came to a Pirogoff he hesitated. But Dr. Armstrong's modification, doing away, as Dr. England had pointed out, with the cicatrix on the pressure surface, may give better results. With regard to the subastragaloid, the time was yet too short to form an opinion, but it was found by experience that the limb is not so serviceable as after a Symes'. The speaker related a case in which the most favourable results had followed a Symes' amputation.

DR. F. J. SHEPHERD was very much interested in Dr. Armstrong's subastragaloid, and thought it would be a good operation to do in children. Usually in operations like this the limb was more or less shortened, but here there would not be this tendency. At any rate this would be a good case to keep track of, and in case of trouble the astragalus could be excised, the astragalus having no muscles attached to it, there was no control over it except that the section behind would be pulled up by the tendo Achillis. With regard to the modified Pirogoff, he thought Dr. Watson had performed the same modification as this one years ago. With regard to amputations on the foot in general, the rule is to save all you can and amputate wherever you can.

DR. ARMSTRONG, in reply to Dr. England, said that he did not fear any displacement of the astragalus, as he thought the attachments on the side would hold the bone in place. He had never read of any cases where the tendo Achillis became attached and turned the stump down. He agreed with Sir William Hingston's favourable opinion of the Lisfranc, but could not quite agree with him in the matter of the modified Pirogoff. This patient had a boot which he wore and all the pressure was on the stump, yet he had many times assured Dr. Armstrong that he could bear pressure on this stump as well as he could on the other foot.

The Treatment of General Septic Peritonitis.

DR. G. E. ARMSTRONG read a paper with the above title. It will appear in the February number of the JOURNAL.

DR. E. A. ROBERTSON related the history of an apparent case of general peritonitis in a child aged 4 years. There was severe pain and great

abdominal tenderness with distension and rigidity of the abdominal walls. Operation was advised by the consulting surgeon, but the mother would not hear of it, and he had been forced to continue treatment with opium. After about a week the patient was convalescent and the bowels moved freely without the aid of purgatives. It seemed to him that a fatal result from septic peritonitis depended upon the relation between the number and virulence of the septic organisms and the resistance of the patient, and undoubtedly the administration of opium increased the latter factor.

DR. F. J. SHEPHERD said it was almost as courageous to use opium now after operations as it was to use purgatives when Lawson Tait first advocated that method of treatment. He was surprised at the meeting of the British Medical Association in Edinburgh to meet a European surgeon who remarked to him that he did not operate, but cured all his cases of appendicitis by opium. Of course Dr. Armstrong's theory is that the source of the infection must be first removed before opium was administered. Dr. Shepherd had had one case where he had cured a man by opium, but not in that way. The patient had a general peritonitis with a very large amount of free pus in the abdomen, a temperature from 103 to 104° F., and he had operated and found the appendix very high up and had had no hopes of the result. The next day the patient was worse, the intestines were so distended it was impossible to keep the sutures in, as the pressure from the distended intestines burst them. He did not die, however, but got worse and worse, and washing out his stomach gave no relief. Finally he said, as he was quite sensible, "Look here, give me a dose of opium and let me die comfortably." He had injected $\frac{3}{4}$ grain of morphia and left the man expecting to find him dead in the morning. During the night, however, his bowels began to act, and he passed a copious amount of material, and recovered. In this case the opium had acted like a purgative.

Dr. Shepherd did not use opium as a rule after operation even if he suspected general or local peritonitis, but was always delighted if he could get the bowels to move, as he had never seen a case that did not do well after the bowels had moved. He could not understand Dr. Armstrong's reasoning when he said he gave opium to reduce the peristalsis and assist the peritonitis. If there was general peritonitis it was all over, and therefore could not be kept localized. At the same time, we were always ready to receive any light on this mooted question, and any method of treatment which seemed favourable, and all were delighted at Dr. Armstrong's enterprise in bringing up the subject.

SIR WILLIAM HINGSTON said that as a matter of history it might interest the Society to know that when he first began to practice in

Montreal, over 50 years ago, the treatment of peritonitis with sometimes enormous doses of opium was almost universal. Later on came the time, after Lawson Tait's remarks, when the use of opium was held to be culpable. Sir William said that all his life he had held to the treatment of peritonitis with opium in considerable doses, but not after operation, as there he was a pupil of Lawson Tait.

DR. A. E. GARROW believed that there were many cases of general peritonitis which got well without, or in spite of, any treatment. He thought that in cases of appendicitis one was always in a better condition to deal with the case when opium had not been given before operation. Besides lessening peristalsis, opium in large doses slowed the respiration and rendered it shallow. He had never seen a case of general peritonitis treated successfully by exhibiting opium, but always depended upon free irrigation of the abdominal cavity. It was his custom to irrigate well on both left and right sides, and if possible into the space between the liver and transverse colon with from eight to twelve gallons of hot saline solution, then drain with large drainage tubes and attempt free evacuation of the bowels by calomel and salines, giving strychnine as a stimulant. In two cases in which the calomel and salines failed to secure movements of the bowels within twenty-four hours small doses of atropine were given. A case was related in which the above routine was carried out, followed by atropine, which caused a movement of the bowels, but the vomiting having returned the abdomen was reopened and a twisted knuckle of intestine found. The case recovered. He was not able to explain the action of atropine, but had seen the same thing occur in more than one case.

DR. A. LAPTIOBN SMITH said that Dr. Armstrong had raised many points of extreme interest. The great point was whether one should use opium in any form after abdominal section, when it was so necessary to get the bowels to move. He believed that many patients had been killed by overpurgation both before and after operation. After trying both with and without opium it was now his practice to give $\frac{1}{4}$ grain of morphine before the patient left the table, and another dose if needed the same night or the next night. He also depended upon strychnine, giving it both before and after the operation, continuing its administration for a week. Another point raised by Dr. Armstrong was the action of the diaphragm in absorbing material from the peritonitic fluid. This had been pointed out by Dr. Clark, who was formerly Kelly's assistant at Baltimore, and he advocated raising the foot of the bed after abdominal sections in order to get the peritoneal fluid to gravitate more towards the diaphragm. Dr. Smith held that the action of opium in those cases where it had proved beneficial had been through relaxing the spasm of

the Lowels through quieting of the reflex excitability of the nervous system. If in washing out the peritoneum one makes a local infection into a general one, washing should not be done and opium is the proper drug to use.

DR. T. P. SILAW referred to the wide difference of opinion expressed with regard to the use of opium, and thought that the matter could not be decided until we knew exactly what its action on the intestines in these cases was.

DR. ENGLAND said that he could not see why Dr. Armstrong should wish to arrest peristalsis in inflammatory conditions of the intestine as the chief object of the treatment was to prevent auto-intoxication, which was certainly favoured by paresis of the bowel, as was witnessed by the result in cases of obstruction of the bowels. Dr. Armstrong held that opium overcame the atonic condition of the bowel in the first stage, and helped the bowel to contract, but, on the other hand, if one was unable to overcome this want of tone, a toxic condition would develop apparently from the poison in the bowel itself. He did not quite see how the theory would hold. However opium acted, it was hardly likely that one could attribute its value to the prevention of peristalsis. Dr. Howard Kelly also, who reports six cases of septic peritonitis with five recoveries, considers as of most importance the securing of perfect toilet and good drainage. The speaker said he was in hopes that Dr. Armstrong would have said something about the various infections. It was generally held that if the infection was due to the streptococcus it was likely to end fatally, while if from the staphylococcus or colon bacillus one might hope for more favourable termination.

DR. ROLLO CAMPBELL asked if the hypodermics mentioned by Dr. Armstrong were pure morphine or a combination with atropine, in which case he fancied the good results might have been attributed to the atropine.

DR. BULLER suggested that the exact action of opium upon the intestines might be determined by laboratory experiments upon animals. From the wide difference of opinion expressed regarding the proper drug to use, it would seem that there was no well understood rule with regard to their use.

DR. KERRY referred to the fact that it was a common demonstration in Germany to open the abdomen of a guinea pig and place it in water, and thus bring on a violent motion of the intestines. In our ordinary practice we used atropine as a laxative, and it has been advocated in large doses in cases of obstruction of the bowels.

DR. JAMES STEWART was afraid the discussion was tending towards the action of opium and not on the original paper at all. There was no doubt that opium had a stimulating effect upon the splanchnics,

while atropine had an opposite effect. He suggested that Dr. Mills might be able to explain the action of these two drugs on the intestines.

DR. WESLEY MILLS said that it was so large a subject that he hesitated to enter upon it here. He thought there was an opportunity for some reconciliation between the various views expressed. First of all it was evidently important that the intestine should be cleared out, and therefore he could understand the *rationale* of purgation. But here again purgation had its disadvantages, as while it might remove toxins it had an injurious effect upon the nervous system. Then again he did not see that the cathartic treatment and the opium were necessarily in opposition. In Dr. Shepherd's case there was extreme loss of tone and peristalsis was out of the question, but as the loss of tone was brought about by reflex nervous spasm, as Dr. Smith had suggested, the administering of opium removed this and allowed of the peristalsis being set up. In the case where loss of tone of the bowel was due to toxins allowed to be produced by a spasm of the bowel due to pain, we were simply dealing with pain. Pain itself was depressing, because a vast number of impulses were going in which were unhealthy and consequently the centres were violently affected and the outgoing nerve impulses were disordered. The question of the direct effect of opium upon the intestines was probably only a small part of the problem. If the disease tended to produce a veritable shock, the giving of opium would tend to control the impulses causing this and in a measure prevent shock.

DR. ARMSTRONG said it would be impossible to reply fully to all the discussion. He had been speaking of a small class of general septic peritonitis cases and not to post-operative cases, in which the principles on which we should act were altogether different, as here peristalsis should be encouraged to prevent the formation of adhesions and the administration of opium added to the danger of obstruction. But supposing that a gastric or typhoid ulcer or an appendix vermiformis perforates, the infection at first was local, and if it could be kept local the results were fairly good, whereas if a purgative were given the peristalsis set up would tend to spread the infection and make it general. As to the purgative action of opium he was unable to speak, there were cases, undoubtedly, where it apparently acted in this manner. An instance of such occurred to him in a patient from whose abdomen he had let out two or three quarts of pus from all over the cavity. After a careful toilet the man had been put on large doses of opium kept up without any laxative and yet the abdomen had distended only an inch or more after the operation, and on the sixth day his bowels moved freely.

THE

Montreal Medical Journal.

A Monthly Record of the Progress of Medical and Surgical Science.

EDITED BY

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JAMES STEWART,
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No. 1.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

The Montreal Medico-Chirurgical with whose proceedings our readers are doubtless well acquainted, enters upon the New Year with bright prospects for increased activity. During the past year it has entered into new and commodious quarters, over the West End Branch of the Bank of Montreal, on the corner of St. Catherine and Mansfield streets; comprising a large meeting hall, comfortably furnished and capable of seating 125 persons, with an adjoining coat room, also a reading room a stock room for the accommodation of the library, and a committee room.

It is the intention of the council to make the rooms an attractive rendezvous for the profession. All the more important medical journals will be kept on file, and arrangements are about completed whereby the rooms will be under the charge of an attendant, and open from 2 to 6 p.m., and from, 8 to 11 p.m.

It is also proposed to offer the advantages of the Society to non-resident members at a comparatively nominal fee, who, it is hoped, may be thus induced to contribute occasional papers and join in its discus-

sions. The stated evenings of the Society are held on its 1st and 3rd Fridays of the month, from October to June inclusive.

The office bearers for the present year are as follows:—

Officers.

President—Dr. Geo. E. Armstrong.

Vice-President—Dr. H. S. Birkett.

Treasurer—Dr. J. M. Jack.

Secretary—Dr. Alfred T. Bazin.

Trustees—Drs. G. A. Brown, F. J. Shepherd, Jas. Perrigo.

Committee on Rooms—Drs. J. G. McCarthy, A. Macphail, H. B. Carmichael.

Committee on Library—Drs. F. A. L. Lockhart, F. G. Finley, W. G. M. Byers.

Committee on Programmes—Drs. G. G. Campbell, F. R. England, W. F. Hamilton.

Committee on Admissions—Drs. Jas. Bell, J. M. Elder, W. G. Reilly.

Professor Pestalozza of Florence, on behalf of the Committee of Organization of the Fourth International Congress of Gynæcology, begs to announce to the profession of Canada that the Congress will meet in Rome, from the fifteenth to the twenty-first of September of this year. The committee of organization consists of Professors Pasquali Morosani and Mangiagelli who wish to extend a hearty welcome to their Canadian brethren. The subscription fee is five dollars for gentlemen and two dollars for the ladies accompanying them. The treasurer is Dr. La Torre, 8 Via Venti Settembre, Rome. The subjects chosen for discussion are :

1. The medical indications for the induction of labor.
2. Genital tuberculosis.
3. Hysterectomy in puerperal septicæmia.
4. Inflammatory changes in the neck of the uterus.
5. The surgical treatment of cancer of the uterus.

It is the earnest wish of the committee to have a large attendance of Gynæcologists and Obstetricians from Canada.

Proceedings of the McGill Medical Society of Undergraduates.

Stated Meeting Friday, December 14, 1901.

R. PATTERSON, PRESIDENT, IN THE CHAIR.

The programme for the evening was a discussion of the subject "Can tuberculosis be treated as well in Canada as elsewhere," provided a spirited and well contested debate, the speakers in the affirmative being Messrs. H. Walker and A. Campbell, and in the negative, Ames and Hyatt. The judges for the debate were Professors Adami and Lafleur and Dr. W. F. Hamilton.

Mr. Walker, the first speaker in the affirmative, dealt mainly with the various forms of tuberculosis and the varieties of climatic conditions which we possess in Canada, pointing out how every form could be provided with the climate most advantageous to it.

Mr. Ames on the negative side dealt mainly on the proper prophylaxis and endeavored to point out how painfully behind other nations Canada was in this respect. His speech was well delivered and he made some very telling points.

Mr. A. Campbell, the second speaker in the affirmative, admitted the previous speaker's arguments were most logical and to the point, but showed that the question at issue was not whether other countries had done more for the treatment of the disease, but whether we have in Canada the essentials for this treatment. Those he stated to be (1) a moderately high altitude, (2) a cool dry air, and (3) a minimum of rainy and cloudy days, and went on to show that in Canada we possess these to a degree unapproachable by any other country.

Mr. Hyatt, in the negative, delivered an able speech in which he contended that the climate of Canada was too rigorous for advanced cases of tuberculosis, and even unsuitable for the successful treatment of early cases with a weak constitution. He considered the climatic conditions of Colorado and Switzerland as much preferable.

Mr. Walker was then allowed five minutes in which to sum up the arguments on each side and close the debate, after which the judges retired to consider their decision. During their absence Professor Mills was noticed in the hall and, in response to the clamors of the audience, the president asked him to make a short speech. This he did in his

usual happy manner, urging upon the members of the Society the advisability of establishing a library of their own in connection with it.

The decision rendered by the judges was that in debate and the presentation of their views, the speakers in the negative excelled, but that the speakers in the affirmative maintained their position throughout and won their point.

After the decision was given Dr. Adami expressed his own opinion upon the subject under debate and stated that he considered the climate in the vicinity of Kamloops, B.C., to be the most suitable for the successful treatment of pulmonary tuberculosis. Dr. Hamilton also favored the gathering with a few words on the subject at issue. The meeting closed with a special vote of thanks to the judges for their services upon this occasion.

Stated Meeting, January 10, 1902.

PROFESSOR C. F. MARTIN, HON. PRESIDENT, IN THE CHAIR.

This was the largest and most representative meeting in the history of the society, some 260 members being present to hear an address by Dr. Garrow on Medical Ethics. It is hoped to publish the address, which was a complete thesis on this subject, in full in the next number of the JOURNAL.

Mr. S. B. Thomas, one of the active members of the Medical Society, has been confined to the Montreal General Hospital for the past three weeks, where he has had to undergo an operation for appendicitis. All will be pleased to learn that he expects to be back at work again very shortly.

After a good deal of delay the new reading room of the Undergraduates' Medical Society is now in order. It is a large, well-lighted and well-ventilated room on the first floor of the building. The principal medical and scientific magazines (25 in all) and the leading daily and weekly newspapers of the Dominion, with a few from the United States are to be found on file. The furnishing has been improved by three large oak tables and new chairs have been added. The walls have been adorned and the room rendered interesting to the students by the group pictures of the graduating classes from the year 1880 to the present date arranged in chronological order.

A beautiful tablet erected by the classes of 1901, 02, 03, 04 occupies a conspicuous place in the room, to the memories of Harold L. Borden, B.A., of Canning, N.S., and A. Patrick O'Reilly, B.A., of Ham-

ilton, Ont., who died on active service in South Africa in 1900, occupies a conspicuous place in the room.

It is of interest to note that the growth of the reading room kept pace with the growth of the faculty. The Medical Society was formed in 1879 through the efforts of Drs. Osler and Buller, and shortly afterwards undertook to support a reading room. The first room was a small apartment in the basement of the building and the literature provided was one daily newspaper and the *Illustrated London News*. In 1885 the room used as the Registrar's office until the present year was fitted up as a students' reading room and the reading matter was considerably increased. In 1886 the faculty were induced to collect a dollar from each student as part of his yearly fees and to devote it to the support of the reading room and since then the finances of the Society have been in a satisfactory condition. When the Molson wing was built in 1894, a reading room was fitted up in the rear of No. 3 Lecture Theatre and the number of periodicals was greatly increased. This room was used until the present year, when the present quarters already described were obtained.

THE EARLY HISTORY AND PROPHYLAXIS OF SYPHILIS.

BY

W. A. GARDNER, '02.

Syphilis, synonymously known as lues venerea, morbus gallicus, pox, bad disorder, and by various other terms, is derived from two Greek words meaning swine and love.

This name syphilis by which it is most often recognized in all languages was first employed in 1521, in a poem in which a herdsman named Syphilus is afflicted by some mysterious malady by the god Apollo.

The existence of syphilis in prehistoric ages has been inferred after close study of certain bones exhumed in various parts of the world, exhibiting lesions identical or similar to those found in bones which there is no doubt of the process. Such bones have been found in different parts of the United States, and the lesions have been interpreted by many, as unequivocally due to syphilis. Other views, however, have been taken on this subject and microscopical examination suggests the idea that the changes induced might have been caused by simple inflammation.

In the ancient literature of the Chinese and Japanese, according to some French writers, not only were the initial lesions and their subse-

quent manifestations appreciated and understood, but the therapeutic value of mercury was fully recognized. A Chinese treatise describes with great minuteness laryngeal symptoms, ostoscopic pains, and condylomata.

Similarly, it is claimed that certain Egyptian and Assyrian inscriptions show clearly that some relation was established between local genital disease resulting from sexual indulgence and lesions observed later upon the trunk limbs and organs of sense.

There is strong reason to believe that reference is made to gonorrhoea in the regulations prescribed by the Levitical Law, but that syphilis was recognized among the Hebrews, is only inferred by some vague phrases; as for example, the strong expressions in which David after the loss of his child bewails the disease of his bones, the loss of his strength, and the cleavage of his tongue to his palate, have been urged in proof of syphilis derived from the woman and the cause of the premature death of the child.

In the literature of the Middle Ages, an oft quoted sentence appears, that the whole body may be infested as the result of lesions in the foul uterus.

If syphilis actually existed previous to the 15th century, it is probable it had not yet attained the virulence and formidable features of a later date.

In 1493, Christopher Columbus returned to Spain from America and some of his company were treated for syphilis by a physician, the symptoms of which first appeared on shipboard. An epidemic of syphilis was reported the following year.

Soon after this the Spaniards and the French troops of Charles VIII. were brought into contact in a war in Italy. The aristocratic officers led the most dissolute of lives, and the rank and file assiduously followed their example.

Now for the first time syphilis was revealed in completeness to the study of medical men. An unmistakable epidemic spread with more or less rapidity, over Italy, France, Spain, Switzerland, and Rhine Provinces.

One view explains the epidemic by an entirely American origin, the other bases its conclusions on the lighting up of previously existing distant germs.

The history of syphilis from the beginning of the 16th century is comparable with that of the advance of all science, in the same time. The evolution of symptoms were soon studied, but the employment of mercury in the management of the disease was not systematized till

the beginning of the 18th century. The French were the earliest to win a name in this fruitful field. About the middle of the 19th century, the eminent Ricord first taught the distinctions of the three great periods of the disease, primary, secondary and tertiary.

In Iceland, though syphilis has frequently been introduced it has quickly died away and is there extinct.

In Africa, Livingstone states that syphilis seems incapable of permanence in any form in persons of pure African blood anywhere in the center of the country.

In China the disease is common, but relatively mild among the natives, due, no doubt, to the protection afforded by previous race infection.

In Japan, according to Dr. Eldridge, it is exceptional to meet a man who will not acknowledge that at some time he suffered from syphilis.

Syphilis, though generally venereal, is often acquired innocently. We can have hereditary syphilis, (2) marital syphilis, (3) syphilis sine coitus.

A discussion of these phases is not embraced in this paper, but a few points in connection with each lead us up to the prophylaxis.

Marital syphilis deserves the most careful consideration from everyone who at any time may have syphilitic patients under observation.

Syphilis without coitus deserves the special attention of all, as the dangers extend to everyone, and those dangers are little understood by the profession, to say nothing of the gross ignorance of the laity.

The methods by which non-venereal syphilis may be acquired are innumerable and relate to every circumstance and surrounding of life. The explanation of the greater frequency of venereal syphilis is found in the nature of the virus which requires an abraded surface for its admission. In the genital region the delicate character of the mucous membrane and the frequent abrasions which occur during coitus afford a ready entrance for the poison, further favored by prolonged contact, heat and moisture.

Extragenital chancres are most frequently found on the lips acquired by kissing, on the digital fingers of accoucheurs, on the cheek from razor wounds, on the breast, chin and other places. A curious case is recorded of a young lady who had a chancre on her neck. On close inquiry it was found that a bee had stung her, and a lady friend had licked a piece of court plaster and placed it on the spot. Three weeks after the small point had gradually increased into a chancre.

Another instance is that of a young lady in a coffee tavern who was accustomed to hold coins in her mouth, and developed chancre of the

lip. Her lover was found free of syphilis and the recorder states she had not been kissed by another man for months. Ritual circumcision has frequently been followed by inoculation. Dr. Rust in 1805, found a number of children in a Jewish institute with chancre of the penis. He observed that the disease was confined to the male children and that their mothers and attendants were unaffected. He concluded the sores must come from the circumcision act, and watched the man who performed the ceremony; after excision he placed the wounded part in his mouth previous to dusting on a drying powder, and, on examination, his mouth was found full of mucous patches.

From what has been said it is readily understood that syphilis is a disease that inflicts great injury upon the public health, for it imperils not only those who have been guilty of sexual transgression but also those who are quite innocent. Not only does this infection occur in the daily intercourse and occupations of life, but also in the most varied relations, in the care of children, in industrial pursuits and in professional callings. Syphilis from marriage, or marital syphilis, stands prominent in the innocent acquiring of the disease. While men occasionally acquire it in lawful wedlock it is principally the wives who suffer from the sins of their husbands, before or after marriage, and on them falls a large share of the burden of innocent syphilis. Fournier, the great French authority, concludes that fully twenty-five per cent. of all females affected with syphilis acquired it honestly in lawful wedlock relations, and among the married females in his private practice in seventy-five per cent. the disease was unmistakably traced to the husband.

Surely then there is something in the plea that some measures should be taken to prevent the wholesale infection of those innocent victims of marital syphilis. But if this aspect of the subject seems dark, that of hereditary syphilis is yet darker and calls even more strenuously for relief.

The following is taken from the records of births of syphilitic children at the Moscow Hospital from 1860-1870. During those years there were 2,002 births and 1,425 deaths, or seventy-one per cent. of the children born there of syphilitic parents, died.

If, however, the effects of the disease were limited only to the destruction in the newborn or in the products of conception, there would be strong reasons for the introduction of measures to check the spread of the disease, from its loss to the State, but this is only a portion of the ills wrought in connection with generation, and it would be better

if all syphilitic children should thus fail of life, than be born with an inheritance which so often proves such a curse.

The case of a man is quoted, who, in early life, had severe syphilis destroying his palate, of whose nine children two were idiots, two deaf and dumb, and two died in infancy.

Thus the army of innocents swells in size and pleads for the restriction of the disease, which, it is now believed, may sometimes be inherited to the third generation, and we know that it has at times decimated our Indian tribes and wrought unspeakable havoc in Russia, in the Hawaiian Islands, and elsewhere. The individual with syphilis, is not only likely to communicate the disease in marriage relations, but is also likely to transmit the taint to the offspring. He is likewise a constant menace to society by virtue of the contagious character of the disease. Fully one-tenth of the cases reported at skin clinics are of syphilitic origin.

It is a disease worthy of the most serious consideration by the physician and sanitarian. It stands second to none in pathological importance. The fact that in so large a proportion of cases it happens to be communicated through sexual contact and in no great share of these from unchaste venereal relations, by no means warrants its relegation to a class of affections the very mention of which is to be tabooed in good society.

Prophylaxis relates to the individual protection of the individual and to public measures or the legal control of syphilis.

Individual safety will result from a better and more widespread knowledge on the part of the profession and the laity, of the manifestations of syphilis, its dangers, and the modes by which the disease has been transmitted.

The following is taken from Dr. Osler:—

Irregular intercourse has existed from the beginning of recorded history, and unless man's nature wholly changes (and of this we can have no hope)—will continue.

Resisting all attempts at solution, the social evil remains the great blot upon our civilization and inextricably blended with it, is the question of the prevention of syphilis.

Personal purity is the prophylaxis which we, as physicians, are especially bound to advocate. Continence may be a hard condition, to some harder than others, but it can be borne, and it is our duty to urge this lesson upon young and old who seek our advice in matters sexual. Certainly, it is better, as St. Paul says; to marry than to burn, but if the former is not feasible, there are other altars than those of

Venus upon which a young man may light fires. He may practice at least two of the five means by which, as a physician Roundibilis counselled Panurge, carnal concupiscence may be culled and quelled—hard work of body and hard work of mind.

Idleness is the mother of lechery, and a young man will find that absorption in any pursuit will do much to cool passions which though natural and proper, cannot in the exigencies of our civilization always obtain natural and proper gratification."

Dr. Gowers says regarding the prevention of syphilis:—

"One means and one alone remains, old as the malady itself, by which it can be prevented. One method and one alone is possible, is sure, and that one is open to all. It is the certain prevention secured by unbroken chastity. The opinions that on pseudopsychological grounds suggest or permit unchastity, are absolutely false. Trace them to their ultimate basis and they are groundless. They rest only on sensory illusions, one of the many illustrations of a maxim I have often to impress on various sufferers.

There are no liars like our own sensations; rather I should say they rest on misinterpretation of these always biased and often deliberate. With all the force that any knowledge I possess, and any authority I have, can give, I assert that no man ever yet was in the slightest degree or way the worse for continence or better for incontinence.

From the latter all are worse morally, a clear majority are worse physically, and in no small number the result is, and ever will be, utter physical shipwreck on one of the many rocks, sharp, jagged-edged, which beset the way, or on one of the many banks of festering slime which no care can possibly avoid."

The second question relates to the regulation of prostitution. Quoting again from Osler:—

"The State accepts the responsibility of guarding citizens against smallpox or cholera, but, in dealing with syphilis, the problem has been too complex and has hitherto baffled solution. On the one hand, inspection, segregation, and regulation are difficult if not impossible to carry out; on the other hand, public sentiment in Anglo-Saxon communities at least is, as yet, bitterly opposed to this plan. While this feeling, though unreasonable, as I think, is entitled to consideration, the choice lies between two evils,—licensing even imperfectly carried out or widespread disease and misery.

If the offender bore the cross alone, I would say forbear; but the physician behind the scenes knows that in countless instances, syphilis has wrought havoc among innocent mothers and helpless infants often

entailing lifelong suffering. It is for them he advocates protective measures."

Occasionally severely radical measures have been proposed as by Dr. C. F. French, who would stamp out syphilis by extirpating in those affected, the sexual organs.

A committee from the American Public Health Association, proposed that a law should be enacted making it a criminal offence to knowingly communicate directly or indirectly venereal disease..

Dr. Bellem declares that inspection, examination and enforced hospitalization are the only means of preventing the propagation of syphilis. He would have an inspection not alone of prostitutes, but of all soldiers, sailors, police, workmen in factories, and of all the ships entering a port.

Physicians shall denounce to the police those whose faces indicate taint. Men and women shall denounce those who gave them the disease. No person shall marry without presenting a certificate that they are free of syphilis. To have syphilis is a misfortune, not a crime. To knowingly transmit it is a criminal act against humanity.

Registration and inspection have been practiced in France and in Russia to a considerable extent.

Bartholemy argues that no one is under any legal obligation to be a prostitute, but if any one has the right of disposing of her body as she pleases, it is necessary that this merchandise like any other, should not damage the consumer nor constitute for him a cheat nor peril.

The law, he shows, regulating prostitution in France, has utterly failed to accomplish the ends that were intended. One hundred thousand women in Paris live by prostitution, and of these only four thousand are registered. French authorities acknowledge that registration and inspection have not reduced the percentage of syphilitics.

In St. Petersburg, the law regulating prostitution, as in Paris, has failed to accomplish its purpose.

In England in 1864, Contagious Disease Acts were passed with the object of reducing syphilis in the army and navy. These acts were a combination of hygienic surveillance of prostitutes and hospital accommodation for their treatment. In 1881, Clifford Albutt said that syphilis under these acts, according to statistics, had actually increased and that they were mischievous, degrading and thoroughly one-sided. They were afterwards repealed.

Such measures having failed in consideration of the difficulty of the problem of how to check the spread of this disease, are we to follow the maxim of the market place and merely say to the purchaser, *caveat*

emptor; and if the conditions of society are such that the struggle for existence obliges many women to dispose of the use of their bodies to any purchaser, then let the buyer beware?

Is there no obligation that society should protect him, and is there no evidence that the injury he does or may do to innocent persons should demand legislative action looking toward securing such protection?

The most comprehensive legislation may not suppress all syphilis even as laws against theft do not stop all thieving, but it may do much to control it.

Many have recognized the one-sided feature of dealing with the women alone, and would have the matron examine all men entering a house of prostitution, while others advocate that all patrons of these houses should be supplied with cards certifying to their sanitary condition, to be presented to the woman when they examine the last inspection date on her card.

One man suffering from this disease aptly expressed the unscrupulous opinion of many so afflicted when he said "I will pay them back, it is their business to chance and risk pox, as it is the soldier's to risk bullets."

Such legislation would undoubtedly increase clandestine venery and so defeat its own object.

The difficulties of the problem can be imagined from the statement that typhoid fever and tuberculosis can be and may be more easily prevented than syphilis, dependent as the latter is upon so many as well as such uncontrollable factors, some of which include the human characteristics of the want or frailty of the woman, the viciousness of the man.

St. Augustine has said that if prostitution were suppressed, society would be inflicted by libertinisms.

However difficult and complex the problem may be, certainly one of the first means that should be adopted to decrease syphilis is the general regulation by all hospitals to admit free all syphilitics that apply for treatment.

It would be, according to Morrow, impossible to estimate how much these institutions have done to increase the prevalence of the disease by refusing admission to such patients. Special wards should be assigned in all general hospitals. Dr. Bulkley, in an essay on syphilis, would have it considered from a broader and higher standpoint than that of a venereal disease, namely, from that of defending the public

health and that of individuals against a malady that afflicts the innocent and guilty alike.

The first question is not one of "regulating prostitution or inspecting, licensing, or legalizing the social evil," but the prevention of the unnecessary extension of a disease which produces a vast amount of sickness, misery and death.

The amount of damage a single unrestricted individual can do, may be judged from the statement of a St. Petersburg physician,—a syphilitic woman who came under his observation had succeeded in contaminating three hundred within a period of ten months. This represents merely the primary transmission of the disease; its later effects on others can hardly be computed.

The first step towards accomplishing the legal control of syphilis would undoubtedly be found in placing it among other contagious diseases which come under the jurisdiction of the health officers. Such precautions are exercised against smallpox, diphtheria and yellow fever; is it not eminently proper that syphilis should be placed in the same category? Syphilis counts its victims by thousands where other diseases count hundreds.

More deaths are ultimately caused by syphilis than by smallpox, while the injury to health and interference to life work is much greater in the former than in the latter.

The conclusion is absolute, syphilis should be placed like other contagious diseases under the control of the health authorities.

THE CHARITY BALL.

On the last night of the year the Medical building was invaded by an overwhelming host of the laity, come to dance the New Year in for the sake of Charity—the new Maternity Hospital. The affair was a memorable one and a distinct success.

The numbers present were such that the capacity of the halls was taxed to the utmost, and outside the "Ladies' Cloak Room" into which the Library had been converted for the evening, the crush was such that it boded imminent danger to the ladies' dresses, while just beyond lay the whole expanse of the ground floor spread with inviting chairs and gorgeous rugs, and unoccupied. From above it was a very pretty sight, a crowded mass of unusually brilliant colour, with the black of the men winding in and out.

Meanwhile, three dances had been played away by the orchestra in the Crow's Nest gallery, and enjoyed by only a few wise heads. Finally, however, the crowd below wound slowly upward to the Anatomical

Museum which had deteriorated into a "Ball Room," while the ante-chamber to the Sanctum Sanctorum Facultatis, of all dignified places in the world, had descended to the unfathomable depths of a "Ping-Pong" establishment.

The dancing began in earnest. The music had its usual effect and the dancers were soon racing around and again around, regardless of everyone and everything but themselves (and charity?). The usual varieties were all represented; the daring man whirled his partner recklessly in the most thickly populated spots in the room, mowing his way at first by the centrifugal effects he produced and later by the panic created by his approach. Cautious dancers were there hugging the outskirts of the room and invariably colliding with door handles and radiators,—in short, there was every variety, truly an apt illustration of antagonistic atomic movement in a heated body. From the picturesque point of view of an absolutely cool non-participant, however, the scene was ideal.

But not all of those assembled danced. No. III. lecture theatre, with all due respect and thanks to the Professor of Chemistry for the practiced and experienced manner in which he fascinated girls and men with the X-rays, was never more popular, than when it had relapsed into utter darkness, and the bump of locality and investigating powers developed by some were truly remarkable, even the pit leading into the pharmacological laboratory being discovered and occupied.

It was a glorious ball, a pleasure to witness, a keener pleasure to participate in, but the crowning success and the part least likely to be forgotten, was the realization of nearly two thousand dollars for the new Maternity Hospital.

PRIZE ESSAY FOR THE ERECTION OF A SANATORIUM, IN ENGLAND, FOR TUBERCULOSIS.

His Majesty the King has graciously consented to direct that the expenditure of a large sum of money which has been placed at his disposal for charitable or utilitarian purposes, shall be devoted to the erection in England of a Sanatorium for tuberculous patients.

His Majesty has appointed the following gentlemen as an Advisory Committee for this purpose:

Sir William Broadbent, Bart., K.C.V.O.

Sir Richard Douglas Powell, Bart., K.C.V.O.

Sir Francis Laking, K.C.V.O.

Sir Felix Semon.

Sir Hermann Weber.

Dr. C. Theodore Williams.

It is intended to construct the Sanatorium on the best lines which past experience and original thought can suggest, and in order to obtain the most valuable opinion His Majesty has been pleased to approve that a sum of £800 be awarded in prizes for the best essays and plans which may be sent in to the Advisory Committee, under the following conditions :

1. Medical men of all nationalities may compete. The papers may either be the work of a medical man, or the joint production of a medical man and an architect.

2. The Sanatorium is intended for 100 tuberculous patients—50 male and 50 female.

3. Of the total number of beds, 88 will be assigned to the more necessitous cases, whilst 12 will be reserved for the well-to-do.

4. The accommodation for all patients is to be comfortable, a separate room being provided for each. Superior arrangements to be made for the more wealthy patients.

5. It may be taken for granted that the Sanatorium will be erected on an elevated and sloping site with a sunny exposure and well sheltered from cold winds. It will have a farm at a convenient distance, and be surrounded by extensive grounds, well wooded, and affording ample space for exercises of various kinds. The soil will be dry and permeable, and the water supply abundant.

6. The Sanatorium must be fitted with the latest sanitary arrangements, and equipped with all requirements for scientific research. Provision should also be made for the recreation of the patients.

7. Economy in construction will be an important consideration, but it must not interfere with the reasonable comfort of the patients or the efficiency of the institution.

8. The essays must be in English and type-written.

9. The essays must not bear the name or names of their authors, but should have a motto, and each essay should be accompanied by a sealed envelope bearing the motto on the outside and containing the full name and address of the author or authors inside.

10. All essays and plans must be sent postage paid, on or before the 15th April, 1902, to one of the secretaries, Dr. P. Horton-Smith, 15 Upper Brook St., London, W.; Dr. John Broadbent, 35 Seymour St., London, W.

11. Three money prizes of £500, £200 and £100 respectively will be awarded in order of merit on the recommendation of the Advisory Committee for the three best essays, provided that they come up to the requisite standard of excellence. Brevity will be an important consideration, and a summary of the main features of the scheme should be appended to the paper. Unsuccessful papers will be returned to the authors.