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ADDRESS TO THE GRADUATES IN MEDICINE OF McGILL UNIVERSITY.

BY

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Professor of Surgery in McGill University.

GRADUATES IN MEDICINE—

It is my agreeable duty on behalf of my colleagues, to offer you our most cordial congratulations on your having to-day received that coveted prize—the just reward of your diligence and application—the degree in Medicine of this University.

We welcome you to our ranks at a period in the history of our noble calling when its record of work accomplished has not only given it a foremost place among the progressive sciences, but has established its claim to consideration as among the most active benefactors of the human race. We congratulate you on entering the profession when the scientific part of medicine is booming all along the line. You are just in time to take advantage of the new methods of diagnosis recently introduced, and which are being improved upon every day. Thanks to Pasteur and Lister, all your surgical procedures will be made comparatively safe, providing you carry out the technique in which you have been so thoroughly grounded. You have had exceptional opportunities for studying that comparatively new science of bacteriology, to which we owe so much. You have been doubtless, yourselves, impressed with the extraordinary contributions of this science to medical art. In fact, as you came on through your comparatively short course of study, some of the most remarkable discoveries in bacteriology have been made. The subject, however, is only in its budding stage; so that you have entered the field in time to assist in solving the many mysteries which still surround it.

Further, you have been fortunate in coming to us when our laboratories were about completed, and the facilities for practical teaching in our hospitals more than doubled.

Every one of you will then quickly take his place in that procession of able, earnest men who are striving by every means available to emancipate our profession from that bondage of imperfect theories and traditional practice which has resulted in such disastrous consequences in times gone by.

The profession you follow is second to none in usefulness, although the duties devolving upon you as members thereof are certain to be arduous and responsible. There is no profession or following which so tends to elevate and refine its followers and to make them examples of good to all men. Your future will, however, depend very much on the exercise of those qualities which are so essential to success in every walk of life. Industry, energy, integrity, and temperance in all things, are qualities which must form at least part of the foundation, if it be your ambition to build a lasting superstructure. Without these your efforts will come to naught, but possessing them, and armed with the knowledge of the principles of your profession which you have gained here, you may confidently expect to achieve a position alike creditable to your teachers, honourable to yourselves, and useful to society.

It has been customary, on occasions of this kind, to make a rather lengthened reference to the ethics of the profession; but as you have had opportunities of hearing, during the course of study, several admirable addresses on this and allied topics from members of the Faculty, I shall take it for granted that you are ready even now to exhibit that proper professional pride and dignity so characteristic of the true physician. Besides, you have ready access to the many codes which now guide the conduct of the profession in this and almost every other country. But a brief reference to one or two points in this connection may not be out of place.

So far as your relations with a confrere are concerned, above all things be charitable—be honourable. Think not of evil, far less express it. While in your keeping, guard sacredly his good name. When occasion offers, share loyally with him the responsibilities so often overpowering, and the like of which no other profession or business can ever experience. Whatever reputation you win, let it be by fair and open competition. Misunderstandings constantly arise, owing to the lack of appreciation of our code by the patients themselves. For this reason you will have to be ever on the alert.

In your intercourse with your patients generally, be kind and forbearing. Cultivate gentleness of manner. There are few occasions on which you may not assume a cheerful, hopeful, and self-reliant bearing,

which will often do more good than the most elegant prescription. Firmness will be demanded with a certain class of patients; but under no circumstances be brusque. Brusqueness in the physician or surgeon is invariably an indication of either ignorance or self-conceit. There was a time when the rudeness of an Abernethy was tolerated in men of remarkable ability; but that time has passed. Therefore, if you would succeed as a practitioner in any department of medicine, be kind, considerate, courteous. Courtesy makes the true gentleman. As Lord Chesterfield said: "Prepare yourselves for the world as the athletes used to do for their exercises; oil your mind and your manners to give them the necessary suppleness and flexibility, which strength alone will not do. As the family physician, and likewise also the family friend and councillor, see to it that the confidence reposed in you be not destroyed by prattling gossip. Hold inviolate the secrets confided to your keeping. Even the power of the law cannot wrench them from you. There is an impression that doctors as a class are hard-hearted. Such is not the case. Familiarity with frightful accidents and severe operations, as well as with disease and misery of all sorts, makes the surgeon, or the physician, calm and self-possessed. It is very necessary that such should be the case, but it will be found he is none the less capable of exhibiting a full share of sympathy and pity. Your reward of merit which you take away with you to-day, will prove of little or no value, unless reinforced by such conduct and deportment, professional and personal, as only befits the upright physician. Always, in deciding what you will do for the patient, consider what you would have the patient do for you, or some dear relative, under similar circumstances. In other words, keep ever before you the divine injunction: "Whatsoever ye would that others should do unto you, do ye even so to them."

Aim to be cultivated physicians. Matthew Arnold defines culture as "The knowledge of the best that has been thought and said in the world." A cultivated man is always a broad man; as Goethe said, no side of a man's complex nature can be safely neglected; every faculty of the soul, the mind, and the body, should be developed to the greatest possible extent; so that each man may attain the full power and dignity of his nature. Throw physic to the dogs, then, occasionally. Find some congenial pursuit, as among the treasures of English literature; or, if books do not attract, cultivate some hobby, such as the collection of curios or etchings, or paintings, as your purse expands.

Travel when you can. See as much as possible, especially of your own country. Your opinion will be more highly valued when, along with your prescription of change of air or some Spa, you are in a position to furnish details from practical observation of the climatic conditions of the country, or the character and surroundings of the mineral spring to which you are sending your patient.

By all means cultivate a hobby. It will especially be found invaluable in declining years. I do not refer, of course, to the kind of hobby which impels a medical man to prescribe the same remedy for everything, whether it be housemaid's knee or prickly heat, or who finds symptoms of some favorite malady in every case. We are all the better for being taken occasionally outside the narrow field of labor which has by accident fallen to us. Those of you who have been fortunate enough to have had a previous university training, will, perhaps, fare best, because no doubt a classical, mathematical and literary drilling of the higher sort better prepares the soil for the acquisition not only of professional knowledge, but trains the mind also for subsequent knowledge. Hence I am among those who look forward to the time when every medical man will be able to write B.A., or B.Sc., as well as M.D., after his name. As Dr. Eliot truly says in one of his admirable essays: "The physician needs thorough education, that he may hold his own in public estimation with other professional men who undergo a prolonged and vigorous preparatory training. Social power and standing come with recognized cultivation; and public confidence is given to men who are believed to seek the truth for truth's sake, holding themselves free from the influence of inherited dogmas, consecrated phrases, and preconceived opinions concerning the desirable results of current enquiries."

Your first duty is, undoubtedly, to your profession; but it is not reasonable to expect that you shall always be mere diagnosticating and healing machines, "grinding out opinions and advice as the grist that comes from the mill." You have a duty to perform as citizens. Thanks to the great advances which have been made of late years in the study of hygiene, the physician in every community has become practically the only effective teacher of the principles and practice of Preventive Medicine. You will be expected to serve on school committees and boards of trustees, where your advice will be sought regarding the construction and ventilation of the school house and physical training of the young—a most important subject and one which you should study carefully. The local boards of health will be anxious to have your opinion on precautions to be taken against the spread of infectious diseases, on methods of disinfection, on the water supply, and on the proper course to be adopted for the cleansing of filthy and overcrowded tenements. A very live question which has recently loomed up is that of tuberculosis. As you are aware, the fight against this dread disease is now on, and you will be almost immediately in the thick of it, either as hospital internes or as general practitioners. The time is fast approaching when tuberculosis will have to be handled as any other plague. According to the reports of the Registrar-General, no fewer

than 41,642 persons died in Great Britain last year from pulmonary tuberculosis alone, other forms being excluded in the estimate. A proper system of notification and registration of this communicable and, therefore, preventable disease, will have to be at once established everywhere. I notice with pleasure that the Government of South Australia has already taken the inititative, having passed an act, in January last, to the effect that, "Every medical practitioner attending on, or consulted by, any person suffering from pulmonary tuberculosis, shall, as soon as the fact becomes known to him, report the same to the local board of the district in which the person resides." Provision is also made for the inspection of cattle and meat, and the proper disinfection of dwellings where the tuberculous bacillus is even suspected to lurk. Milk, about which there is any doubt, can be sold only after having been boiled for ten minutes.

The excellent example set by South Australia will, doubtless, soon be followed by other dependencies of the Crown, and by the mother country itself. I have every reason to believe that an early attempt will be made to bring about similar legislation in Canada.

The scope of preventive medicine has, of late, become so extensive that it will probably soon have to be recognised as a specialty. In Great Britain such is practically the case now. Thanks to the generosity of our large-hearted and open-handed Chancellor, Lord Strathcona and Mount Royal, the Medical Faculty of McGill is now in a position to offer an admirable training in this subject; and, doubtless, a special diploma will be issued from that department some of these days. I fail to see the necessity for the establishment of special schools of hygiene, as advocated by some of our American friends.

Thus, you observe, you will be expected to take a personal interest in the most important questions and movements of the day; and, although I should strongly advise you, as beginners, to eschew politics altogether, I fail to see why, when you shall have reached a certain age, and, perhaps, acquired even a moderate competency, you should still refuse to take a part in the active affairs of your country, especially when among the most burning questions of the day are some which members of our profession alone can intelligently handle. In the last valedictory address, delivered by our lamented colleague and late Dean of this Faculty, Dr. Robert Palmer Howard, I find the following reference to this subject: "You are citizens, as well as physicians. It is very creditable to the medical men of Canada that it cannot be said of them, as it has lately been of their brethren in the mother country, that by not offering themselves for parliament they 'exhibit great narrowness of mind and want of sympathy with general, social and political questions.' In our country many medical men are found devot-

ing their time and abilities to legislation in the Senate and Commons of the Dominion and of its several Provinces. The Lieutenant-Governor of Quebec, the President of the Council of the same Province, the Minister of Railways in the Federal Government, are all physicians. Whether discharging the duties of members of parliament, if such shall be the lot of any of you, or the not less useful functions of physicians, bear constantly in mind that you are members of a profession *primarily* devoted to the *treatment* of disease, but which, in harmony with its genius, charges itself with the duty of informing society how to *prevent* and *guard against* disease." . . . I think it quite possible for a medical man to be a member of the Parliament of Canada and still retain his self respect.

While we are on the subject of politics I trust arrangements may soon be made whereby medical registration in Canada will be much modified and improved. As you are aware, a movement is on foot to establish a Dominion Medical Council, whose license to practice shall be general throughout the Dominion. In view of the possibility of some such scheme becoming law within the next year, I should strongly advise those of you who have no fixed plans to keep up your studies, with a view to passing the examination before that board in the near future. In the event of a failure of the measure, and, in any case, I wish to impress upon you the advisability of taking out your provincial license as you originally intended. This will not involve any additional cost. You can, however, do much towards the success of the scheme by advocating it in the various parts of Canada where your homes are situated, or where you settle in practice. Make it plain that there is no intention on the part of the promoters of the measure to interfere in any way with the rights at present enjoyed by the Provincial Licensing Boards. Those, which so desire, will continue as before, to examine and issue licenses to practice in their own province. The main objects of the movement are to improve medical education in Canada, to obtain reciprocity with Great Britain, to open the whole Dominion, and, indeed, the Empire, to deserving men, and to break down the barriers which at present exist between the various provinces. Any one of these is, I think, deserving of your support. We shall, therefore, look to you to lend us a helping hand.

Gentlemen, I will conclude this rambling address by wishing you all God-speed. Be assured we will rejoice always in your success and be ever proud of any reputation you may achieve.

Fare you well.

JUDICIAL ERRORS IN LUNACY.*

BY

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AND

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The scope of this paper is limited to cases which came under the jurisdiction of criminal courts and refers only to lunatics who have been convicted and sentenced.

The lunatics who thus suffer punishment from the criminal courts may be divided into two classes.

A.

In the first class we meet with those who, though having been submitted to medical examinations and found insane, have, nevertheless, been convicted and sentenced, because the court paid no heed to the opinion of the experts who testified to their irresponsibility. These are judicial errors which may be called intentional.

These errors have been brought up at a meeting of the British Medical Association in 1895, by eminent experts, as to England, as shown by the following extracts from the proceedings:—

Dr. Clouston: "He thought that half of all criminals solemnly tried and condemned to be hanged, were afterwards made out insane and relegated to Broadmoor."

Dr. Nicholson: "The actual percentage of those committed for murder, being reprieved was 5.6 per cent., for a period extending over 30 years."

Dr. Maudsley: "Injustice was undoubtedly done by a parade of justice, condemnation and afterwards removal to Broadmoor."

Dr. Daniel Clarke, of Toronto, gave before this Association, facts collected in Canada, which we would call very interesting if they were not so to be regretted.

Speaking at the last meeting of this Association, Dr. H. E. Allison, of the Matteawan State Hospital for criminal lunatics, said: "It will be noticed that out of one hundred and seventy-nine insane persons who have committed murder, over fifty-three per cent. were received

* Read at the fifty-fifth annual meeting of the American Medico-Psychological Association, held in New York, May, 1899.

from the prisons, having been convicted and sentenced for life. So far as it is possible to judge from their histories, and from the character of their disease, at least forty per cent. of such convicted cases were insane at the time the crime was committed. In many instances the fact of their insanity was not recognised at the time of their trial, but in others the plea was set upon a defence and failed."

B.

The second class comprises all those insane persons whose mental derangement has not been recognised at the trial and have been sentenced, the fact of their insanity having passed unnoticed. No medical opinion was sought for and no plea of insanity was set as a defence.

These are judicial errors which may be called unintentional. To this second class of cases we shall refer exclusively in this paper.

For some years past doctors and criminologists have been struck by the number of unrecognised insane, condemned by the courts, and very interesting statistics on the subject have been published in Europe.

1.

In an essay, published in 1891, Dr. Pactet gives more than 35 observations gathered in the space of a few months, whilst he was house physician at the special infirmary of the Prefecture of Police at Paris.

In 1892, Dr. Paul Garnier, chief physician of the infirmary of the Paris Prefecture of Police, in his report, presented to the Anthropological Congress at Brussels, compiled a statistical table of unrecognised insane, who were condemned and afterwards sent from the various prisons of the Department of the Seine to the special infirmary, in order to undergo an examination as to their sanity.

These lunatics were numbered as follows:—

1886	59
1887	45
1888	49
1889	37
1890	65
	255

This table shows a total of 255 errors for a period of five years.

Dr. Eugene Thibaud, in a remarkable paper published in 1896, gives an account of the number of lunatics judicially condemned and afterwards committed to the Ann's Asylum (Paris), in the service of Dr. Magnan, from 1891 to January 1st, 1896, to be as follows:—

1891	22
1892	17
1893	21
1894	15
1895	42
	117

which gives a total of 117 judicial errors for this quinquennial term.

Dr. Henry Lemesle, in an essay published in 1896, gives quite a number of personal observations, collected during the year, of unrecognised lunatics who were condemned and afterwards reached the asylum.

In 1894, at the Congress of Mental Science, held at Clermont Ferrand, Dr. Henry Monod, director of Charities and Public Health of the Department of the Interior, gave the results of an investigation made in France of the lunatics admitted from 1886 to 1890 inclusively, in a certain number of asylums. He proves that of the 30,000 lunatics committed to those establishments, 271 had undergone punishment that medical examination would have prevented.

Almost similar statistics are found in Germany. At the Waldheim prison, of 6,276 prisoners condemned, 2.7 per cent. were lunatics. Dr. Kühn has stated that under like circumstances 144 lunatics were condemned for different crimes.

In Scotland, the Inspector of Prisons, Mr. Frederic Hall, and Professor Leacock found similar results (Lemesle).

We may also refer to the opinion of Dr. Allison reported above for the State of New York.

In the Province of Quebec, we are no better situated, as is shown by the following table compiled from the reports of the Inspectors of Prisons and Asylums.

Year.	No. of prisoners.	Received insane during the year.	Became insane during the year.	Transferred to asylum during the year.	Insane remaining in jail at the end of year.	Insane committed for protection during the year.
1881.....	3,603	176	14	?	25	145
1882.....	3,459	123	?	?	16	26
1883.....	3,250	147	?	?	11	40
1884.....	3.565	133	?	?	5	39
1885.....	3,368	39	5	33	3	16
1886.....	3,415	52	19	24	4	27
1887.....	3,483	94	8	49	3	11
1888.....	3,999	56	14	53	1	30
1889.....	3,960	48	13	52	0	27
1890.....	4,280	39	20	56	1	22
1891.....	4,177	45	18	53	0	8
1892.....	3.478	31	0	38	0	18
1893.....	3,628	37	24	43	0	22
1894.....	4,525	50	13	44	7	14
1895.....	4,652	44	6	45	5	20
1896.....	4,760	34	1	47	4	21
1897.....	4,037	49	0	43	5	12
	65,699	1,197	155	580	90	498

From 1881 to 1897 inclusively, 1,197 lunatics were admitted to the common jails of the Province, of this number only 498 were incarcerated for safe keeping whilst waiting for the proper papers to be made out for their removal to the asylum. Deducting the 498 cases, who were intentionally committed as lunatics, their mental condition

being known, there remains a total number of 699 lunatics condemned, during a period of 17 years, that is to say, an annual average of 40 unrecognised and condemned lunatics.

The proof that these prisoners were lunatics at the time of their trial and sentence is that upon their reception in prison they were immediately classed as lunatics. In the reports, it is stated that they were received as insane, to distinguish them from prisoners who became insane whilst undergoing their sentence. Moreover, the most part of them were transferred to the asylum a very short time after their trial, or, at least, during the year of their conviction, as the tables cited above prove. They show, indeed, that there remained in prison at the end of the year only a very limited number of lunatics and that even in certain years all had been transferred to the asylum. But this number of 699 lunatics received in the prisons after their trial and conviction does not certainly give the exact total of unrecognised and condemned lunatics. For 155 prisoners are reported as having become insane during the time of the detention. There is here certainly an error of interpretation. They are evidently, for the greater part, individuals whose insanity, after having been unrecognised at the time of their trial, was not detected at the time of their committal, and only became known during the time of their detention, on the occasion of some boisterous actions.

To one of us is assigned the duty of examining the prisoners confined in Montreal jail who are thought to be insane. This prison alone receives almost half, and very often more than half of all the individuals condemned in the Province of Quebec. Since 1894 not a single case was met whose insanity did not ante-date the trial and committal.

Moreover, a certain number of condemned lunatics do not appear at all in the above statistics, their mental state having been overlooked not only at the trial, but also during the whole time of their detention. This occurs in cases where the symptoms, though indisputable, are not sufficiently obvious to be apparent to observers without any special knowledge of insanity. When these cases accommodate themselves to prison life and are not difficult to manage, they frequently do not come under notice as lunatics. Also in cases where the prisoner conceals his insane delusions, etc., as Marandon de Montyel has reported numerous cases, and pass consequently unnoticed. These cases are not entered as lunatics in the records.

It is of no special interest to relate the history of these patients, who belong to all classes of insane. They are remarkable only from the fact that they have been unrecognised by the courts and condemned, and have been transferred to an asylum almost immediately after their condemnation, or after having undergone some part of their sentence.

Some of these cases have been noted by one of us in an essay upon the legal responsibility of the insane in Canada.

However, one case appears to me worthy of relating on account of the wording of the judge's sentence. A young woman suffering from mystic delusions had been temporarily removed from an asylum, where she was being treated, by her family, who wished to take charge of her a time. Two weeks after leaving the asylum she escaped from her home and her flight was made known to the police, who were asked to look for her. The following night a constable met the young woman, who was wandering around the streets, and arrested her. At the police station she clearly showed her insanity by saying that "she was the daughter of God." Brought before the magistrate, he sent her to prison, wording his sentence as follows: "Whereas a young woman "of unknown name, but who calls herself the daughter of God, has "been found by this court to be a vagrant, a libertine, and a night-"walker, etc."

One of us saw her a few days after she had been condemned, and, on his report, she was sent back to the asylum, from which she had only been allowed to leave on trial.

II.

The other cases that came under our notice have a much more lamentable aspect, for they refer to lunatics who have not only been condemned, after having been unrecognised as such by the courts, but who have been so repeatedly, or who have undergone the hard punishment of the penitentiary for several years, imprisoned among convicts, and subjected to the same regime. Some even of them, after having been found sufficiently sane to be condemned and undergo their punishment, were not judged wise enough to be able to take care of themselves, and were transferred to the asylum on the expiration of their sentence, in place of being given their liberty.

We will lay before you a few examples and make a few remarks on the most striking cases.

In the month of November, 1896, whilst making a visit to one of the penitentiaries we were asked to examine certain convicts. A few days afterwards one of us, sending the results of our examination to the Warden of the penitentiary, wrote as follows:—

Case 1. T. P..... shows fixed delusions of persecution, marked by false ideas of persecution, illusions and hallucinations of hearing. This individual is a patient who cannot be suitably treated in a penitentiary. Moreover, the nature of his disease is such that violent reactions follow, which are of such a nature as to be sufficient to compromise the security of the guardians and convicts and disturb order and discipline. On account of his being considered irresponsible, the ordinary measures of restraint usually employed in the peniten-

tiaries cannot be used with him. For all these reasons this unfortunate should be transferred to a lunatic asylum.

Case No. 2. C. L..... is almost an imbecile, or, at best, weak-minded in a very marked degree, the inconsistency of his language betrays the want of co-ordination in his ideas, and the weakness of his intelligence. In his case this state is permanent, and it existed at the time he committed his crime, during his trial and when he was sentenced.

In consequence of the weakness of his intellect, this person should not be held accountable for his actions. And as he consequently cannot take care of himself, and as it is dangerous, not only for himself, but also for others, that he should be at large, he should be confined in a lunatic asylum until he can be liberated on condition that a proper watch is kept on him to prevent a repetition of the same acts.

Case No. 3. A. P.....The same remarks applied to this patient. He is of weak mind, irresponsible, and incapable of taking care of himself. He should be confined in an asylum. His malady is due to an arrest of his intellectual development.

Case No. 4. T. C.....is an imbecile. His intelligence shows much to be wanting. He is irresponsible and not able to take care of himself.

Case No. 5. H. L.....shows mental enfeeblement in a marked degree. In his case it is either congenital or terminal. He, moreover, shows delusions (false ideas of persecution) and sensorial troubles (hallucinations of hearing and of general sensibility). These delusions and hallucinations were pre-existent to his crime, and certainly existed at the time of his trial; he then also showed the same intellectual weakness. This patient should be transferred to and kept in an asylum, until all the delusions which now trouble him have disappeared, or given his liberty when sufficient guarantee is given that he will be well watched, so that he will be prevented from repeating his former crimes.

Case No. 6. F. D.....is weak-minded, and has delirious ideas and hallucinations of hearing. This weak-mindedness is probably due to an arrest of intellectual development. This is a permanent and definite state, existing previous to his crime and trial. This person should be transferred to a lunatic asylum. He should not be given his liberty unless the assurance was also given that he would be well watched and prevented from doing harm.

As can be seen, all the patients whom I have mentioned, with the exception of T. P., who is suffering from a fixed delirium of persecution, show a marked degree of weakness of the intellect, probably due, for most of them, to an arrest of intellectual de-

velopment. This intellectual weakness is a permanent state, it is the manner of life of the individual; it was anterior to the crimes committed; it existed at the time of their trial, just as it exists at present. That is to say, that they are individuals who have not enough intelligence to understand the nature of their acts, nor the consequences thereof, nor to resist the impulses of their weaked inclinations. These persons were evidently incapable of conducting their defence on account of their mental state.

All these individuals were condemned to several years of detention in the penitentiary, and they had been at the time undergoing their punishment for a certain time. We do not know what became of them all, but the sending of one of them, viz., C. L., the second mentioned above, to St. Jean de Dieu Asylum gives us an opportunity of relating his strange story, which one of us presented to the authorities in the following report.

"I believe it to be my duty to send you a special report on the case of C. L., admitted to the asylum on November 21, 1897, from the Kingston Penitentiary. This patient was admitted to Beauport Asylum on June 20, 1879. After 14 years confinement he escaped from the asylum, August 13, 1893. On the 22nd August, viz., nine days after his escape, he was met near a barn that was on fire, and immediately arrested on suspicion of having set it on fire. The following day, August 23, he was brought before the Police Magistrate at Montreal, and, after the testimony of some witnesses, he was remanded to stand his trial before the Court of Queen's Bench. On September 29 following, he was found guilty of the crime of which he was accused, by a jury in the Court of Queen's Bench, and sentenced to five years imprisonment in the penitentiary. In the month of October, 1896, on the occasion of a casual visit to the penitentiary, I met C. L..... I examined him and found that he was an imbecile. I left a report to this effect in the hands of the warden. It was after that visit that C. L. was transferred to the insane department of Kingston penitentiary, but he had already undergone more than three years of his punishment.

It is really astonishing that an imbecile, escaping from a lunatic asylum, where he had been confined for 14 years, who was incapable of reasonable conversation, could, a few days after his escape from the asylum, be brought before the criminal court without exciting any suspicion as to his mental condition. The witnesses, who gave evidence at the trial could not swear to anything, except the fact alone that he had made threats and had been seen near the barn after the discovery of the fire, but they all recalled his incoherent talk and his strange manner of acting, which drew their attention to him. The following account of his previous history was very kindly given me by Dr. Vallee, medical superintendent of the Quebec Asylum."

Dr. Vallee, writing to us, said:—"At the time of C.L.'s commitment to Beauport Asylum, he was classed as a chronic maniac, but he was always very weak-minded, and he was remarkably weak intellectually when he escaped. This is just what astonishes me most, how he could have appeared before a court of justice, without drawing attention to his condition." The medical certificate of commitment, made out in 1879, states that the patient had always shown symptoms of imbecility, but that for the past three years his condition was aggravated by signs of excitement, with threats of violence and murder. In C. L. the skull was remarkably narrow laterally, the face asymmetrical, the ears small and deformed, the countenance without expression. He had, without doubt, the appearance of an imbecile. His conversation was incoherent and restricted to a very limited range of childish ideas; he had but a very imperfect idea of time and place; his memory was very defective, and he had never been able to learn how to read or write.

Case No. 7. D. T....., 35 years of age. Summary. General paralysis; convicted 18 times in the space of four years. Died in prison.

Case No. 8. X..... Summary. An imbecile condemned to three years in the penitentiary. On the expiration of his sentence, transferred to the asylum, because he was not found intelligent enough to take care of himself, seeing that he was a stranger and had no person to look after him. He was certainly in the same condition when he was sentenced, and he should from the first have been sent to the asylum.

Case No. 9. Summary. A. T..... was examined after he had left the penitentiary, where he had served a five years' sentence. He showed a considerable weakness of the intellectual faculties, marked by his incoherent language. After looking into his case it was found that he was insane previous to his conviction, being sentenced when he was evidently insane with delusions. And his faculties became enfeebled (terminal dementia) during his detention.

Case No. 10. Summary. Delusions of wealth and greatness. Condemned to two years in the penitentiary, and one month in prison. Irresponsibility.

J. N. G..... was arrested on March 16, 1896, for refusing to pay his cab fare, and sentenced to one month in prison. Whilst in prison he had such ridiculous ideas of fabulous wealth that the warden asked one of us to examine his mental condition.

J. N. G..... was 78 years of age. After looking into his past record, we found that he had already, the 3rd March, 1892, undergone a term of two years' punishment in the penitentiary for false pretences. He had made a purchase, in payment for which he had given

a cheque on a bank where he had no funds. The explanation he gave of his manner of acting was as follows:—"It is really possible that at the time I had no money in this bank, but they had only to present the cheque at a neighbouring bank. . . . When Vanderbilt gives his cheque it is honoured at all banks, whether he has money there or not." We do not know if this defence is the same as he gave before the court, but of one thing we are certain, he was condemned.

Whilst in the penitentiary he entertained everybody about his fabulous wealth, his gold mines worth millions, about his wonderful inventions, to such a degree that he became a source of disorder. "Had it "not been for the short time he was to remain here," the warden wrote us, "it would have been necessary to transfer him to an asylum."

After leaving the penitentiary this same delusion continued until his second arrest. Relying on the testimony of the expert, the authorities had him transferred to an asylum. In April, 1899, he wrote a letter to a friend promising him six million pounds, if he would aid him in escaping.

We have little doubt but that at the time of his first condemnation J. N. G. was a lunatic, and he should have been sent to the asylum instead of being committed to the penitentiary.

Case No. 11. Summary. Epilepsy, ambulatory automatism; 15 times condemned to the common jail. Irresponsibility.

John M..... was condemned for being drunk on August 29, 1892, to 15 days in the common jail. This was the first of a series of fifteen commitments for drunkness, vagrancy or assault, fortunately ending in a convulsive attack a few days after his last commitment to three months in prison, the 4th of November, 1895. This convulsive attack, followed by phenomena out of the ordinary, at length gave a hint, and we were immediately ordered to proceed to a mental examination of the patient.

John M..... was 52 years of age, and a cooper by trade. He originally came from Newfoundland, but was a resident of Montreal for the past 26 years. He was a good workman, father of seven children, all well brought up, and until the 29th August, 1892, he had never committed an offence. Though he sometimes used alcoholic liquors, he never abused them; in fact, he was never drunk. He denied any family history of insanity or nervous disease. He showed a slight facial irregularity, the right side being a little more developed than the left.

For five or six years previous the first symptoms of his sickness manifested themselves by loss of consciousness, followed by a crisis of maniacal excitement, afterwards, at intervals of more or less duration, by convulsive crises and loss of consciousness, all or nearly all accompanied or followed by morbid phenomena.

Many times he found himself in the police cell, accused of drunkness, when he had left home in a state of perfect sobriety. Many times he found himself far from the locality where he had intended to go and in places where he had no reason to be. One morning he woke up in prison: he had been arrested, had undergone his trial, and had been condemned, without being conscious of the fact.

We have, then, in this case, convulsive vrisis, loss of memory, ambulatory automatism. And we certainly attribute each of the pretended crimes for which he was sentenced, to a morbid state of mind due to epilepsy.

We must naturally come to the conclusion of irresponsibility in this case, and it is surprising that the court should have refused to accept the sworn testimony that a friend wished to give, viz.: that John M.... was an epileptic. John M. has since been transferred to St. Jean de Dieu Asylum.

III.

We see from the above reports and figures that judges, left to their own resources, have been unable to detect insanity in a number of obvious cases, notwithstanding their universally acknowledged perspicacity, carefulness, fairness and learning, to which we wish to render a well-merited tribute.

It is also shown that lunatics have escaped notice in jails and penitentiaries.

From these facts we feel justified to draw the following conclusions:

CONCLUSION.

1. It follows, from what we have just said, that judges are very often unable to appreciate rightly the mental condition of the prisoners brought before them for trial, because they are strangers to the special knowledge of medicine.

2. They should then consider it as one of the duties of their office, to order a medical examination of the mental state of the prisoners, when the circumstances of the crime committed my them, their attitude or their past history point to a defective mental condition.

3. On every occasion, when the defence alleges the irresponsibility of the prisoner, they should order a thorough and independent medical examination, covering all the aspects of the case.

4. They should confide this examination to those who have made a special study of this branch of science.

5. The jail physicians should examine all prisoners immediately after their reception, and report to the magistrate all those who show any doubtful mental condition.

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GRAVES' DISEASE, WITH A REPORT OF THE SUCCESSFU TREATMENT OF A CASE.*

BY

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In undertaking to read a paper on Graves' disease, I do not presume to offer anything new or to give a satisfactory explanation of the singular combination of symptoms usually found associated together in this troublesome malady; but having had a case under my care for the last eighteen months I propose to refer to some of the main features of the disease and glance at a few of the many theories that have been brought forward to account for them, touching upon some of the various plans of treatment which have been tried to counteract their influence. I hope that in the discussion which may follow, some ideas may be gathered from the experience of others which will be found helpful in the future.

Under the name of Graves' Disease or Exophthalmic Goitre we designate a group of symptoms, the chief of which are increased size of the thyroid gland, an accelerated pulse, and exophthalmos—protrusion of the eye-balls. A number of other disturbances are usually met with, chiefly in the nervous and circulatory systems, but these are usually secondary and not characteristic of the disease.

Exophthalmic goitre has been recognised and more or less accurately described for more than half a century, but up to the present time the researches of the best pathologists have failed to give a rational and satisfactory explanation of its main features. Professor Osler, of Johns Hopkins, speaks of it as "a singular disease arising from an *unknown cause.*" As early as 1825, Pavy described some cases of the disease under the designation of "an enlargement of the thyroid gland in connection with enlargement and palpitation of the heart," but among eight cases reported by him, exophthalmos is mentioned in only one. The Germans claim that Basedow was the first to accurately describe the disease, in 1840, while the English usually assign the credit of the discovery to Graves. From that time to the present many widely different theories have been advanced to account for it. Most of the observers, such as Graves and Basedow and their contemporaries as well as many since their time, sought to find the essential cause in a morbid state of the system like that of chlorosis, while others considered the heart the point of origin. Later observers, for the most part, have regarded

* Read before the annual meeting of the Nova Scotia Medical Society, July 5th, 1899.

the disease as being altogether due to neurotic causes. During the last decade, some of the best of modern pathologists have sought to find a solution of the strange trio of symptoms which form the cardinal features of the disease, on the theory that they all arise as a result of a general toxæmia of the system due to the absorption of septic material from the intestinal canal and caused by imperfect digestion and malassimilation of food. And when we remember that gastro-intestinal irritation is an almost constant and most troublesome feature in most cases of Graves' disease, as it has been in the case under my own observation, we are inclined to hope that a satisfactory solution of the cause of the disease will eventually be found along this line of investigation.

A theory of the disease, to deserve the name, should be able to derive all the symptoms, or at least the cardinal ones, from a common source; so far this has never been done. An attempt has frequently been made to show that the other symptoms depend upon the struma or goitre, and many arguments have been advanced in support of the theory that the disease is virtually due to an excessive thyroid secretion, and therefore essentially a thyroid secretion toxæmia. Doubtless, the excessive thyroid secretion, when present, influences the other symptoms, but it merely aggravates the symptoms which it did not cause, just as starch and sugar in the diabetic diet aggravate the disease which these articles do not cause. But the goitre is by no means the first symptom in the majority of cases, and hence cannot be regarded as the cause of the others.

The most generally accepted theory in the past of the struma or goitre, has been a hyperæmia of the thyroid gland owing to paralysis of the vaso-motor nerves running in the cervical sympathetic. In support of this view we have the following conditions which are usually present:—strong pulsations of the small branches of the carotid, the rapid growth of the tumour, the perceptible pulsations of the thyroid arteries, and the abnormal development of the thyroid arteries and veins, as shown by the pathological anatomy of the disease; but that these conditions are due to a paralysis of the sympathetic is as yet a matter of question. There is, moreover, as yet no experimental proof that section of the sympathetic can produce struma.

Exophthalmos, the second cardinal symptom, usually makes it appearance soon after the struma; in a few cases it has been seen first. It is almost without exception bilateral. Sometimes it makes its appearance in one eye earlier than the other, and often it is not equally developed on both sides. In some cases it is wholly wanting. In degree, the exophthalmos varies greatly; sometimes there is but slight prominence of the eyeball, at other times the protrusion is so great that no part of the globe is covered by the eyelids, and even disloca-

tion of the globe may occur. The exophthalmos is generally regarded as a mechanical protrusion of the eyeball due to venous hyperæmia and increased development of fat in the cellular tissue of the orbit. The results of ophthalmoscopic examination seem to justify the assumption of venous hyperæmia, and the increased deposit of retrobulbar fat has been directly proved by a series of autopsies, but when we ask why we have venous congestion and increase of orbital fatty tissue, we are at a loss for a satisfactory answer.

The third cardinal symptom of Graves' disease to be noticed, is acceleration of the heart's action. This symptom is usually the first to be developed. For a long time it was supposed to be due to anæmia, but this view has now but few supporters. That it is due, as some have supposed, to a primary disease of the heart is also unsupported by evidence. The bulk of evidence among pathologists of the last twenty years, tends to show that it is caused by disturbance of the function of the cervical sympathetic. It is well known that irritation of the sympathetic will increase the action of the heart, and if we could assume a condition of permanent irritation in any group of nerve fibres, this view would in a large measure explain the increase in the heart's rate. Friedreich has attempted a somewhat different explanation. He thinks that the vaso-motor nerves that originate from the sympathetic are in a state of paralysis, which produces a dilatation of the coronary arteries and causes an increased flow of blood to the muscle of the heart, and so an increased action of that organ. This view, however, does not differ essentially from the former; for the branches of the sympathetic which support the heart are commonly supposed to have the function of transferring the excitement coming from their centre to the ganglia of the heart. Another hypothesis worth mentioning is that of Roben, who considers that the goitre exerts pressure on the sympathetic, causing both exophthalmos and acceleration of the heart. This view is supported by several German pathologists of repute, but it is contradicted by the fact that goitre often appears at the same time as the exophthalmos, or even years after it, and in some cases is altogether wanting. Besides, the ordinary cystic goitre, that often occurs endemically and is often harder and bulkier than that of Graves' disease, produces no exophthalmos, and in cases where compression of the sympathetic is proved to exist, the exophthalmos is wholly wanting. Moreover, exophthalmos does not diminish in proportion to the diminution of the goitre, as would be expected if it were due to the effect of pressure. Thus we see that the demand for a theory of the disease that will satisfactorily account for all the symptoms has not yet been supplied.

The theory of systemic infection by the absorption of poisonous ma-

terial from the intestine, is advocated at the present time by pathologists of high repute, and a plan of treatment, based on this theory, is being adopted by many practitioners, and with highly satisfactory results. The history of the case already referred to as under my own observation supports this idea. It is as follows:—

About eighteen months ago, I was consulted by a lady suffering from what were clearly the symptoms of Graves' disease. She had a good family history, was 29 years of age, married, and the mother of one child, then fifteen months old. The goitre, that led her to seek my advice, was quite prominent, but not more so than the exophthalmos. The pulse rate was 135 per minute and the eyeballs protruded from their orbits with a staring appearance. There were great prostration of strength, loss of appetite, and on the slightest exertion, profuse perspirations. I followed what appeared to be the natural indication as far as the heart's action was concerned, and ordered complete rest with arterial sedatives, commencing with digitalis, and the use of iodine externally. This treatment I was obliged to discontinue in a few days owing to increased nausea and diarrhœa. I then tried in succession most of the arterial sedatives, such as strophanthus, convallaria, spartein, etc., but all caused more or less increase in the gastro-intestinal irritation, while none of them had the slightest effect in controlling the heart's action. I then gave potassium iodide and also acid hydrochlor., but with no benefit whatever. I then put my patient on thyroid extract, partly for the sake of being in the fashion and partly in the hope of deriving some benefit from it, but soon had reason to regret having made the experiment, as it not only was of no benefit whatever, but was of positive injury. At this stage Dr. W. S. Muir, of Truro, kindly saw the case with me and suggested, as a result of his own experience, the use of intestinal antiseptics. His suggestion was at once acted upon and the patient given salicylate of bismuth combined with salol, with an occasional mild mercurial purge to keep the intestinal canal free and as nearly antiseptic as possible. The diet consisted largely of milk and eggs, no meat of any kind, fruit, or vegetables, being given. This treatment, combined with absolute rest in bed and followed up for six weeks produced a decided improvement in all the symptoms of the disease. The intestinal irritation, which had become a most serious feature of the case, was first relieved. Following this, there was soon a reduction of the enlarged thyroid gland. In twelve weeks the pulse rate was reduced from 140 to 100 per minute. The exophthalmos was the last of the three main symptoms to show signs of improvement. In four months she was able to be out of bed and go about the house without any apparent injurious effects. She continued taking small doses of salicylate of bismuth and salol for sev-

eral weeks after she left her bed. The improvement in her general health and strength continued without interruption, and now, for the last six months and more, she has been attending to her usual duties about a farm house with ease and comfort. When I saw her last, a few days ago, her pulse was 82 per minute, strong and regular, her eyes had a perfectly natural appearance, and it required very close examination to distinguish any thyroid enlargement.

I do not say the case is cured, as I am well aware that relapse of her former condition is probable, but the improvement has been so great and the success of this plan of treatment has been so far in excess of all others, that it certainly deserves trial in similar cases, and also strongly suggests the idea that in the disorders of the gastro-intestinal tract may ultimately be found the hitherto unexplained cause of this very serious and often fatal disease.

THE MANAGEMENT OF A SANATORIUM.*

BY

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Though much attention has of late been directed towards the prevention and treatment of tuberculosis,—in both of which sanatoria play so important a part,— to one not having made a study of such institutions, the executive details must be more or less unfamiliar. For this reason some personal observations on the management of a sanatorium may be of interest, and I hope that I may be pardoned if I confine my remarks chiefly to the administration of the Adirondack Cottage Sanitarium, which, from its past record, may be taken as the type of a successful establishment of this nature. To Dr. E. L. Trudeau belongs the credit of having established the first institution in America for the treatment of incipient tuberculosis in persons of moderate means, and in the year 1884 the Adirondack Cottage Sanitarium was founded, Dr. Trudeau by personal appeals having collected enough money to build one small cottage and a wing of the intended main building. From this beginning it has steadily grown, till now it is quite a settlement, consisting of twenty-seven buildings, twenty-two of which are cottages, and affording accommodation for 100 patients.

Before proceeding to describe the sanatorium in detail, it would be perhaps well to say a few words as to the physical conditions of the locality. The sanatorium is situated on the slope of a hill about 1,750 feet above sea-level, and is distant about one a half miles from the village of Saranac Lake, which is about 100 feet lower. Though in the heart of the Adirondacks, it is easily accessible. The climate is cool and stimulating, having an average mean temperature of 41.5°F. and, owing to its elevation, the thermometer shows a considerable range, this averaging 22.5°F. The winter is cold and dry and there is a moderate snow fall. In summer the days are warm, but with few exceptions not uncomfortably so, and the nights are cool. There is a fair proportion of cloudy and rainy days, but the soil being sandy and porous and the country hilly, the resulting dampness is but transitory, the beneficial effects from the purification of the air much over-balancing the discomfort caused by the rain. For this and other reasons the air is remarkably pure, tests having shown the presence of but few bacteria, moulds being most commonly found.

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[1] Being a contribution to a discussion on the "Prevention and Cure of Tuberculosis," at the Montreal Medico-Chirurgical Society, 17th April, 1899.

I will now proceed briefly with a detailed description of the sanatorium. The main or administration building is a large three-storied structure and contains on the ground floor, besides the large entrance hall, the dining room, general sitting room, and office, in which the business affairs of the institution are conducted. The dining room is a large well-lighted room and has a seating capacity for about 120 patients. In this building are also the examining and waiting rooms for patients, the dispensary, and a suite of apartments occupied by the superintendent; and in a wing are servants' quarters, kitchen, etc.; while on the third floor are bedrooms for a limited number of patients. Built into the walls of the waiting rooms and corridors are small receptacles, closed and opened at will, each containing a cuspidor, which, when not called into requisition, is hidden from sight. This plan is adopted where necessary and no large cuspidors are seen anywhere in the establishment. Adjacent to the administration building is the infirmary, a large two-storied cottage, comfortable and well-equipped, where any patient whose condition necessitates it, receives the closest attention, being under constant medical supervision and having the services of a trained nurse by day or night.

The cottages, with one exception, are one-storied buildings and accommodate from two to nine patients, the majority have a capacity of from four to five, the more recent being built for four, this arrangement having proved the most satisfactory. Each cottage has a roomy verandah, well sheltered from the wind by a wood and glass screen, and here the patients pursue the out-door treatment even in the most severe weather. In direct communication with the verandah is a large and well-furnished sitting room and opening off this is a bedroom for each patient. The walls between the sitting rooms and bedrooms being only seven feet in height, leave an open space above by means of which free ventilation to each room is established; the fresh air after being admitted to the cottage by open transoms above the roof of the verandah, is warmed by its passage through the central sitting room, and enters the bedrooms in this condition. Between each bedroom the separating wall reaches to the ceiling, thus assuring privacy to every patient. It is perhaps needless to say that in each cottage the patients are of one sex. The other buildings, namely, the cottage of the resident physician, chapel, library, and recreation pavilion, can be but mentioned as the necessity for brevity prevents any detailed description.

The method of heating in the main building, infirmary, cottage of the resident physician, and the more recent cottages, is by hot water. They are also supplied with bathroom and water closet, and this system is being gradually adopted in the older cottages, which had previously been heated by means of a stove in the central sitting room

and had no water supply. The plumbing and sanitary arrangements are most modern, and the sanatorium is lighted throughout by electricity, the power being furnished from the village of Saranac Lake. The water supply is excellent, and precautions against fire are observed, there being numerous hydrants with good pressure throughout the grounds, and the main building has a special equipment for this emergency.

The governing body is composed of a board of trustees, of which Dr. Trudeau is president. There are four examining physicians, and under the supervision of Dr. Trudeau, the resident physician, and an assistant attend to the medical duties of the institution and see that the treatment is faithfully carried out by the patients. The business affairs of the sanatorium are conducted under the management of the superintendent, Mrs. Miller.

Each patient is examined on entrance, the treatment prescribed and the case classified, a full record being entered in the case book. This examination is repeated at stated intervals and the condition carefully noted. The sputum and urine are thoroughly examined in all instances, and in rare cases, where, after the usual methods of examination, doubt exists as to the diagnosis of tuberculosis, the tuberculin test is made use of, this being a very valuable aid and quite unattended by any harmful effects. As an auxiliary method in the early diagnosis of tuberculosis, steps have been taken to have an X ray outfit provided. Great care in regard to the disposal of the expectoration is insisted on, and when the patients are told that the reason for this is the danger of infecting themselves and others, they are willing to use every precaution in this respect and the education thus acquired is a very important one from a prophylactic point of view both in and outside of the sanatorium. Cuspidors are supplied free of charge. The discipline is not severe, though the rules are enforced, and it would seem that from the liberty allowed the patients, the monotony of treatment is to a certain extent removed and they are more cheerful than would be the case under more rigid discipline. The length of stay in the sanatorium is limited to one year, the average being about nine months.

Treatment. The essential principles of the treatment consist of life in the open air supplemented with a nourishing diet, drugs playing a minor part and being used only as adjuncts where indicated. Each patient is required to remain daily for eight to ten hours in the open air, most of the time at rest, the amount of exercise varying with the condition of the patient. Excessive exercise in any case is not permitted and getting out of breath or actual fatigue must be avoided. It is one of the duties of the resident physician to see that this treatment is faithfully carried out.

Breathing exercises are considered harmful where there are evidences of any activity of the disease process, as it is thought that from a rational standpoint the inflammation in the diseased part of the lungs is increased by the stretching due to the forced inspirations, this inflammation as in any other portion of the body requiring rest that it may subside. Besides this, the danger of tearing down pleuritic adhesions in the process of formation and the starting up of a fresh pleurisy must be considered.

In the cases with moderate fever, walking to the administration building for meals or treatment is allowed, but otherwise they are kept at rest in the open air. Where there is a more marked degree of pyrexia, absolute rest in the recumbent or semi-recumbent position is insisted on, and these cases are cared for in the infirmary, being carried out to the open air on couches when the weather is favorable.

A point one can hardly help noticing as remarkable is the rapid subsidence of the temperature under this treatment, a few days in the open air often bringing a febrile temperature down to normal or nearly so.

It is, of course, of prime importance that the clothing should be suitable, and this receives careful attention. Excessive wrapping up during the cold weather is not encouraged, as while in-doors the patient is apt to become overheated, and when leaving a warm room to sit outside is very apt to become chilled. Wool is worn next the skin both winter and summer, the weight varying with the season. The patients are weighed every two weeks and the weights recorded, the majority showing a gain from time to time.

The diet is varied and abundant and in this sanatorium consists of three full meals, largely composed of proteids and fats, which are served in the large dining hall of the administration building as follows:—Breakfast at 8 a.m., dinner at 1 p.m., and supper at 6 p.m., the heaviest meal being taken in the middle of the day. Meat is supplied at each meal. Great care is observed in the choice and preparation of the food, and the patients with very few exceptions eat very heartily and do not suffer from indigestion. Though this care in regard to the diet is observed, it is not customary for the resident physician to pay a morning visit to each patient, prescribing the individual diet for the day as is the rule in some of the European sanatoria. With the class of patients admitted to this sanatorium such careful selection of food would seem unnecessary; those requiring this strict care are treated in the infirmary, where, under medical supervision, the diet and treatment are adapted to suit the special circumstances. In addition to the three meals previously mentioned, many partake of refreshments between times, this usually consisting of a glass of milk, egg-nog, or a raw egg. The quantity of milk and egg consumed is

large, ninety-five quarts of milk being supplied daily to the sanatorium besides that obtained from seven good milking cows, the property of the institution. It is needless to say that all these cows have been subjected to the tuberculin test with negative results. In this connection it may be of interest to state that of 240 head of cattle from this district not one gave evidence of tuberculosis under the careful application of the tuberculin test in the hands of a skilled veterinarian.

The medicinal treatment, as previously mentioned, is of secondary importance and need be but briefly referred to. It consists of the usual tonics, such as the various preparations of iron, arsenic, cod liver oil, creosote in small doses, strychnine, etc. Alcohol is rarely prescribed and is only used in those cases where there is weakness, loss of appetite, and fever. Among the special conditions requiring treatment are cough, night sweats, hæmorrhage, loss of appetite, constipation, etc. The cough, if not distressing, requires no special treatment, but when such is indicated some sedative such as codeine is used. Night sweats, if severe, are treated with cold sponging, atropine, dilute mineral acids, agaracin, strychnine, etc.; atropine being perhaps the most useful. Hæmorrhage is treated with absolute rest, morphine, or codeine, tincture of digitalis, extract of hydrastis Canadensis, ice, and if severe, ligation of the extremities. For loss of appetite, nut vomica is most commonly made use of, either alone or combined with an alkali, as soda bicarbonate; other bitter tonics and dilute nitro-muriatic acid are also among the agents resorted to. Constipation, which is quite common, is relieved by the use of some laxative such as cascara, aloin, strychnine and belladonna, or the simple remedy of drinking a glassful of hot or cold water at bed time and the first thing in the morning.

The tuberculin treatment with its modifications has been used for some years, the class of case chosen being that which is afebrile, well-nourished, and in whose sputum is found the tubercle bacillus. This treatment is carefully carried out, the quantity very gradually increased, and any distinct reaction is avoided. Under these conditions in no case is harm done, and though it is difficult to say positively that this treatment is beneficial, still, the results would lead one to infer that the tendency to an early relapse is less in those who have been thus treated. Hydrotherapy is limited to cold sponging.

The results of treatment as will be seen by the annual report for 1898 are eminently satisfactory, and the last few years show an improvement over the former ones, due possibly to improved plant and methods, and also to the fact that more early and favorable cases are received, though in this last respect there is still much to be desired. Dr. Trudeau, in a communication to the *Practitioner* for February, 1899, tabulates the results of treatment for the two years 1897 and

1898 for 203 patients who remained an average of nine months (those remaining less than three months are put in a separate class) as follows:—

Condition of patient when admitted.	Apparently cured.	Disease arrested.	Improved.	Unimproved.	Died.
75 incipient cases	65	16	2	2	.....
84 advanced casss.....	15	38	19	11	1
44 far-advanced cases.....	.....	7	19	13	4
Total. 203	70	71	40	26	6

Thus it will be seen that of 75 incipient cases, 55 were apparently cured, a percentage a trifle over 73; while in 84 advanced cases, only 15 were apparently cured, a percentage of under 18; and of the 44 far advanced cases, there was not one apparently cured. This is a very striking comparison and is made to show the great importance of an early diagnosis and treatment in pulmonary tuberculosis.

As regards the cost of maintenance, I cannot do better than refer to the foot-note in the Treasurer's report for the year 1898, which I will quote verbatim:—

"The total number of hospital days at the sanatarium for the past "year was 30,912, or 4,416 weeks. The total receipts from patients, "including the $1,071.57 received from the Trustee of the Free Bed "Fund, were $24,563.91. The running expenses were $32,425.36, or "$7,761.45 more than the receipts from patients, this excess being "paid for out of the contributions to the general fund. The cost per "week for each patient was $6.75¾, or $1.75¾ more than the regular "charge per week ($5.00)."

As will be seen by this statement, there is a loss of $1.75¾ on each patient, and this, I may say, is less than in any previous year. (In comparing this cost with that of any other sanatoria, it is only fair to say that the medical director receives no remuneration). The deficiency is made up annually by contributions from friends of the institution.

Having endeavored to describe some of the details of the management of one of the cottage sanatoria, it may be of interest to compare briefly the cottage and barracks systems. Both of these have their advocates, and while in European countries the barracks system (in which they house under one roof, 100 or more patients) is the most popular, in this country the cottage system meets with much more favor. While personally favoring the latter, it must be admitted that each has advantages not possessed by the other. The chief advantage of the barracks system is that it is less expensive to build and maintain. Another, but less important one, is that the patients are under

direct and constant supervision, and consequently can be more easily controlled.

On the other hand, the chief advantages possessed by the cottage system are:—

(1) The patients are less crowded together, and consequently the hygienic conditions are less likely to suffer. This is a very important point.

(2) Where there is an infirmary attached, as there should be in every cottage sanatorium, the separation of the sick from the well can be better carried out.

(3) Patients have the comparative seclusion of their cottages with daily short walks in the open air to their meals

In brief, the cottage system has really only one advantage in its application to selected cases, and that is its expense, while its advantages largely over-balance this. Thus, in the treatment of the more early cases or those in whom permanent benefit may be looked for, the cottage system is certainly much to be preferred. But where the rest treatment is strictly carried out and where rigid discipline is enforced, as in many of the European sanatoria, the barracks system would be more suitable. In sanatoria, also, where all stages of the disease are admitted the barracks system would be indicated; but this indiscriminate admission of all stages of the disease to one sanatorium should not be practised, and it is now generally conceded that there should be separate institutions for hopeless cases.

In state sanatoria for the consumptive poor, a compromise between the cottage and barracks systems would appear, perhaps, to offer the greatest advantages. This modification consists in having a number of pavilions, preferably of one storey, with a separate room for each patient and capable of accommodating about twenty-five, each being joined to the administration building by a covered passage. This or a somewhat similar plan has been suggested by Knopf in his thesis, "Les Sanatoria: Traitment et Prophylaxie de la Phthisie Pulmonaire." Another plan of sanatorium which offers as its chief attraction economy, consists of an administration building with one-storied pavilions containing a number of rooms, each opening into a verandah running the length of the building. This would be an effective though not a particularly imposing plan, but if substantially constructed would serve as a permanent institution.

In the United States, the necessity for doing something for the consumptive poor has been recognised, and movements are on foot to establish sanatoria in the different states. Massachusetts has taken the lead in this respect and has now a State Sanatorium in working order. It was opened last October with a building capable of accommodating 200 patients. The plan of the building is a modification of

the cottage and barracks system, viz., pavilions connected by covered corridors with the administration building, and radiating from it. This plan permits of its enlargement to a capacity of 500 patients. In the first month it had 85 patients, and sometime later 125, while at the present time it has its full complement of 200 inmates and many are being turned away. The fees charged are $7.00 per week, of which sum the patient pays half and the state the other half. There is one objection to the plan of this sanatorium and that is that it is laid out in wards.

In the State of New York a scheme for the establishment of a state sanatorium has been formulated. The bill is before the Legislature and has been favourably reported on by a special tuberculosis committee. Pennsylvania and Michigan have been for some time agitating for the establishment of state sanatoria, but nothing definite has as yet been done. The first municipal sanatorium established in America is at Dunning, Illinois, and is supported by the city of Chicago.

In Germany, much is being done for the consumptive poor, and according to Walters, in the *British Medical Journal* of October 15, 1898, the German sickness insurance companies, during 1898, had set aside between 3,000,000 and 4,000,000 marks for the erection or subvention of sanatoria for consumptives, besides sanatoria established by associations of working men, one of which is described by C. Theodore Williams (*British Medical Journal*, April 8, 1899).

There is no reason why Canada should not follow the example set by other countries and establish similar sanatoria for the consumptive poor, especially as the necessity for such institutions is becoming more apparent day by day. It is an indisputable fact that there are many lives sacrificed annually for want of these special institutions where all the conditions necessary for the successful treatment of pulmonary tuberculosis could be obtained at slight cost. Not only would a large number of lives be saved by proper treatment in sanatoria, but the spread of tuberculosis would be checked to a great extent by the isolation of these patients and by the habits of care acquired during their stay in a properly conducted sanatorium. Under existing circumstances the poor man or woman suffering from early tuberculosis has, as a rule, the alternative of remaining at home and there receiving inadequate treatment, often amid the most unhygienic surroundings, the disease, as might be expected, steadily progressing until at last it reaches a hopeless condition. Or, admission to one of the hospitals may be obtained and the patient occupy a ward along with a number of others suffering from various diseases. During all this time the danger of infecting others has been present. This is only one of many instances of daily occurrence, and when we consider what might be done were suitable measures adopted from the first, it is

surely time that such should be available to a greater extent than at present.

A properly conducted sanatorium for the consumptive poor, with accommodation for 100 or over, in a suitable locality, could be run at a cost of $7.00 per week, half of which might be contributed by the patient or his friends. The amount of public money annually expended on the consumptive poor in the Montreal hospitals alone, would go a long way towards the building and maintenance of such a sanatorium, besides lessening the evils attendant on crowding their wards with consumptives. Of course, it is understood that only those in whom the chances of cure or improvement are good, should be sent to sanatoria. The far advanced, hopeless cases should be cared for in a special institution, but not in the wards of a general hospital, and therefore the need for such institutions is equally great.

Case Reports.

A CASE OF SPORADIC CRETINISM.*

BY

W. G. PUTNAM, B.A., M.D. (Edin.), of Yarmouth, N.S.

This case was discovered by chance during a short holiday in Colchester County, N.S., in August 1897, and was not seen again by me until May, 1899. The measurements, etc., were sent me by the parents from time to time and I believe them to be thoroughly reliable.

Case of Bella F., now six years old.

Family History on the father's side is nearly perfect. Both grandparents are living, aged 83 and 80 years respectively. Of eight uncles and aunts, one aunt died of pneumonia aged 36; the others are alive and well. On the mother's side the record is not so good. Both grandparents died comparatively young, the cause not being definitely ascertained. Most of the uncles and aunts are alive, but none are very robust. Her father and mother both have excellent health. The patient has two brothers and one sister—ages 12, 10, and 4—all of whom are robust children. The surroundings are excellent, the father being a prosperous farmer.

Personal History. At birth nothing unusual was noticed, the child being apparently healthy and well-formed. As the months rolled by, it was noticed that the child never cried, a circumstance which only excited favorable comment. At the end of a year the parents began to feel somewhat worried over the fact that the child had made no attempt to stand or to walk. At the end of another year she was in much the same condition, except that she would stand for a few minutes if given some assistance. Two more years went by, during which she increased slowly in size and gained enough to stand for hours by a chair, but could not be induced to attempt standing alone or walking, nor would she try to talk.

She was taken to several medical men during her fourth year, all of whom gave a rather hopeless prognosis, suggesting emulsion of cod liver oil, syrup ferri iodidi, etc., as being of possible service.

When I saw her first she was four years and two months old, 29 inches in height, weighed 23 pounds, with measurements of waist, 22 inches, and navel, 21 inches. She had the typical "wooden" expression of a cretin, coarse dry hair, a small umbilical hernia, and a very dry,

* Read at the Annual Meeting of the Nova Scotia Medical Society, July 6th, 1899.

AGE, 4 YEARS 2 MONTHS.

scaly skin. The last was so pronounced that her mother said that on shaking her clothes after taking them off it seemed as if they were filled with bran. She seemed to take but little notice of what was going on around her and would stand for hours by a chair turning over books or other simple toys. The bowels were obstinately constipated. There was no evidence of rickets.

Her general appearance was that of some cases of sporadic cretinism pictured in the *British Medical Journal* of about four years ago, and the result of those cases as treated with thyroid extract induced me to suggest a trial of it with her. She began taking it on September 18th, 1897, taking at first the equivalent of one-sixth of a sheep's thyroid daily, increased later to twice that quantity. At no time was any systemic disturbance induced thereby, and the improvement was immediate and continuous.

My first report from her was on October 20th, 1897, at which time there was practically no change from the measurements of a month before, but she was said to be looking brighter and cried at times. On December 9th, of the same year, less than three months from the time she commenced treatment, there was a marked improvement; height, 34 inches; weight, 24¾ pounds; navel, 19 inches. She was walking alone. The hernia had quite disappeared and her bowels were regular.

From this time on her progress has been steady in every direction. She has had no other treatment than the thyroid extract in the above-mentioned doses. She was without it once for a month and during that time her parents thought she lost ground to some extent.

I saw her again on May 23rd of this year and did not recognize her as the child of two years before. She was then 38 inches in height and weighed 37 pounds. She could talk as plainly as her brother, who was two years younger, and was running about enjoying herself as any healthy child should. She took an intelligent interest in things about the house and farm and looked after her own interests in every way.

I have not been able to get a photograph of recent date to show in conjunction with this one taken before treatment was begun. In closing, I may say that the result of treatment has fully confirmed the diagnosis of sporadic cretinism.

A CASE OF SPORADIC CRETINISM.*

BY

G. GORDON CAMPBELL, B.Sc., M.D.,

Lecturer in Clinical Medicine, McGill University; Assistant Physician to the Montreal General Hospital.

As cases of this condition are always of interest and especially on account of the wonderful results following thyroid treatment, I have thought that a report of the following instance, which had a fairly characteristic group of symptoms and has improved rapidly under the specific treatment, would be worth publishing.

The patient was first seen by me in May, 1898, and gave the following history:—

A. M., female, aged five years, was born on June 8th, 1893. The labour was prolonged and required the assistance of forceps to accomplish delivery, but was otherwise normal. Nothing special was noticed about the child at birth. The parents were living at the time in Chicago, but removed to Dayton, Ohio, six months later. Here she was taken to see a physician on account of the thickness of her tongue, and under the impression that the large tongue might be due to "tongue-tie" the frenum was cut. When the child was three years old the family moved again to Buffalo, New York, and as she did not appear to be developing properly and did not try to talk, another physician was consulted, who stated that he did not understand the condition, but suggested sending her to a hospital for the eye, ear, and throat, as there might be something gained by an examination of the throat. This was accordingly done, and at this hospital the parents were informed that post-nasal adenoids were the cause of her want of development and their removal recommended. The parents, however, would not consent to an operation, although the diagnosis was confirmed by a second physician. The family then moved to Montreal.

Early in May, 1898, I was asked by Dr. F. J. Shepherd to see a case to which he had been called but was unable to go, and on speaking to him about it the next day, he told me that he, while passing in his carriage, had seen a cretin being wheeled up and down in front of the house in a baby carriage. I promised if I got the opportunity to make enquiries about it, and some weeks later had occasion to see the father. On asking him about the child he gave the history already related, but was not very anxious to have me see the case, having come to the

* Read before the Annual Meeting of the Nova Scotia Medical Society, July 6th, 1899.

conclusion that nothing could be done for his child. However, on showing him some illustrations of sporadic cretinism with the marked improvement produced by treatment by thyroids, I gained his consent to my seeing his child.

As will be seen from the accompanying plate of a photograph taken shortly after this and before treatment was begun, examination showed a girl of considerably under the average height for her age, with a short, thick body, large head, and limbs rather large in proportion to the trunk. The face was round and fat, the eye-lids thick and palpabral aperture narrow, the nose wide and flattened, and the lips thick and prominent with the large tongue most of the time protruding between them. Her head was fairly well covered with rather fine hair, which was, however, dry, lustreless and difficult to keep in place. The abdomen was large and prominent and there was a small umbilical hernia. The skin, though dry, could not properly be classed as xeroderma. The child's expression was the characteristic, dull, stolid, stare of cretinism. She showed little, if any, signs of mental development, being unable to express her wants or to speak, except for two sounds which the parents interpreted as "ma" and "pa." She seemed, however, to understand in a measure what was said to her. She would sit all day without crying or laughing or attempting to enter into the play of her brothers and sisters, but at other times was extremely nervous and irritable and easily frightened by strangers. She was still wearing a napkin and required constant care and attention.

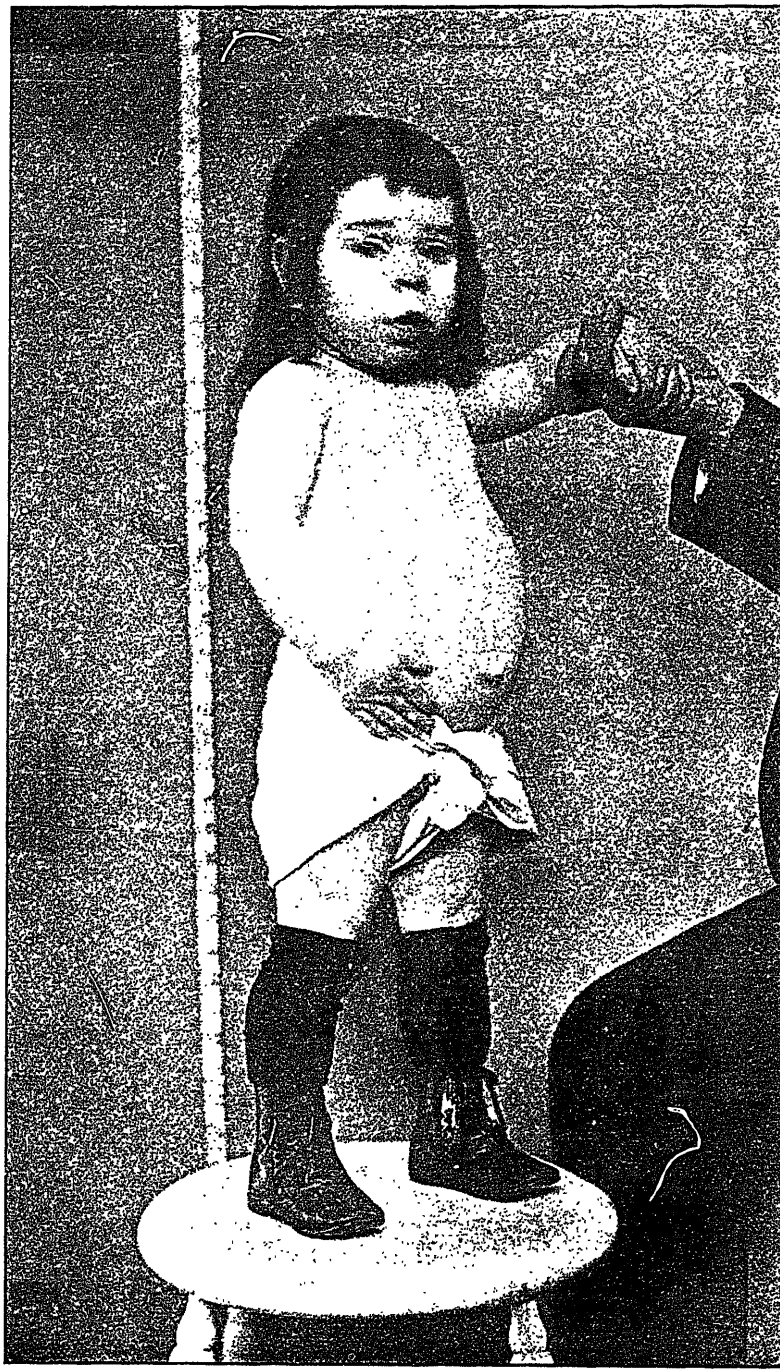
In the *family history* there is nothing of interest. The patient is the fifth of a family of seven, both older and younger children being of average development. When first seen, a younger sister, although there is almost three years difference in their ages, was taller and brighter than the patient.

Treatment was commenced on May 17th, 1898, two grains of Armour's dessicated thyroids being given three times a day to begin with. This, however, proved to be more than she could bear, as she developed the condition described as acute thyroidism, and the dose was diminished to two grains twice a day and finally to two grains once a day, which she has continued to take ever since. Improvement at first was slow, the earliest indication that the thyroid was having any effect upon her condition being in the rapid loss of flesh and falling out of the hair. Her health also appeared to fail. It was soon seen, however, that the expression of her face was changing and the improvement in both mental and bodily condition has been going on continuously ever since.

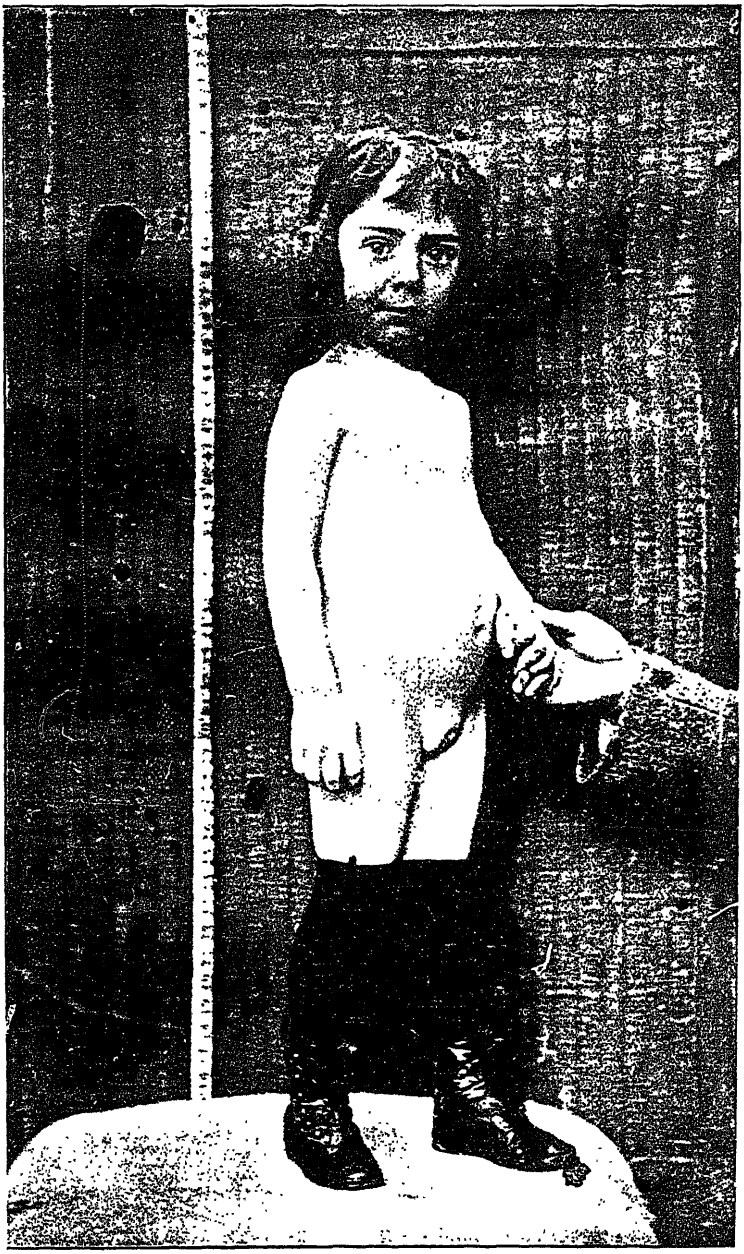
Her present condition, as compared with that of a year ago, is well shown in the second plate of a photograph taken in June, 1899, thirteen months after the first one. Her height, which was 34 inches, has

increased to 38, her expression has entirely changed until now she is an intelligent child, looking perhaps four or five rather than six years of age. The improvement in respect to her mental condition is in no way better shown than by comparison with the younger sister, who is now some two inches shorter; and although one year ago vastly her superior in mental development, is now barely her equal, if not her inferior. The cretin is now a bright vivacious child, taking an interest in and talking about everything around her, does not require more than ordinary attention, has given up wearing napkins and attends to her own wants in that respect, and assists in the care of her two younger sisters. She has also lost the most of her timidity. Physically, besides the gain in height, the thickness of the lips, nose, eye-lids and tongue have entirely disappeared, and, although she does not yet look quite right, one would never suppose that she was a cretin. The prominence of the abdomen and the umbilical hernia have also disappeared and the disproportion between the limbs and body is not noticeable. She has lost almost all of her subcutaneous fat, and the new growth of hair is fine, silky, and easily kept in place.

The interesting points about this case are the vast improvement produced by a year's treatment, the small dose of thyroid required, and the fact that the condition was so long unrecognized. With regard to the degree of benefit received from this form of treatment, reports of cases tend to show that it is greater the earlier in life it is instituted after the condition has developed and also the younger the age of the child. Although there have been a few brilliant results from the treatment of cretins who have reached adult life, in the majority of cases it is far from being as satisfactory as in the case reported. The history of the case previous to coming to Montreal shows that, although these cases cannot be mistaken by any one who has ever had the advantage of seeing a well-marked type, there is nothing in any one of the symptoms or appearances taken separately that would give a clue to the diagnosis, at least in early childhood. Backward children are by no means uncommon, and the condition which is the cause of their want of development may not be recognized until they reach the age of three or even five years. In cretinism the characteristics of course become more marked as the child grows older and fails to develop. In three cases of this condition which I have had under my care, the youngest was three years of age, and, although on taking the appearances and symptoms as a whole, the condition was very suggestive and was looked upon as sporadic cretinism, the diagnosis was not absolute until thyroid treatment had proved its correctness.



SPORADIC CRETINISM.—A. M., aged 5 years, height 34 inches. Photographed May, 1898.



SPORADIC CRETINISM.—After one year's treatment. Height, 38 inches. Photographed June, 1899.

TWO CASES OF "LA GRIPPE" WITH SYMPTOMS POINTING TO CEREBRO-SPINAL MENINGITIS.*

BY

M. S. DICKSON, M.D., of Great Village, Nova Scotia.

On March 21st of the present year I was called to see E. B., aged 19 years, and J. B., aged 21 years, brothers, said to be suffering from a relapse of "la grippe." Both boys having arrived home in a delirious condition I could not get a very good history of their present illness up to that time. Their father told me that two weeks before they had had an ordinary attack of "la grippe," which had confined them to their beds for several days, the other members of the family having similar attacks at that time. They had no medical attendance, but I have no doubt but that the old gentleman's diagnosis was correct. The boys recovered sufficiently to enable them to return to their work, which was chopping in the lumber woods. After working a few days they had to give up, and returned to the railway station nearest their home on the 20th of March and started to walk the remaining distance of four miles in a blinding snowstorm. They were, by the time they arrived at the station, in a semi-delirious condition, and the younger, E. B., gave out on the road. The elder reached home in an exhausted condition, and after being questioned about his brother, it was learned that he had given out by the road-side, and when brought home was wildly delirious. The following evening I was called in.

I will first give a description of the condition and symptoms of the younger, and refer first to those of the nervous system which were the most striking. There was headache of the most severe type, at first most marked in the frontal region, but later becoming equally severe in the occipital. Though delirium was so active at times that the pain in the head would be apparently forgotten in his raving, it would be as severe as ever on his partial return to consciousness, causing the patient to cry out as though with most excruciating pain. Though light, motion, or noise increased the severity of the pain, it was usually most severe in the early part of the night. Although apparently dreading any motion, he would at times become very restless and even try in his delirium to get out of bed. The head was thrown back, but not held very rigid at the time of my first visit on the 21st. At the time of my second and third visits on the 26th and 27th the rigidity was very marked. Lumbar pain was very severe when I first arrived

* Read before the Annual Meeting of the Nova Scotia Medical Society, July 5th, 1899.

in the evening, but had not been complained of earlier in the day. Lumbar pain continued throughout and was exaggerated by motion, but not by pressure along the spinal column. The hand slipped under the pillow would cause intense pain on making the slightest efforts to raise or move the head. There was no paralysis up to the time of my last visit to him on the 27th. Delirium was constant and at times violent, but for the most part low and muttering, with hallucinations of sight and hearing. Occasionally, when spoken to sharply several times in succession, he would answer questions quite rationally and distinctly. The eye symptoms were not important, the pupils were normal and reacted well and equally to light. Hearing was very dull. Insomnia was very persistent.

The temperature on the first visit was 106°F., on the 26th 104.2°F., and on the 27th, 103.5°F. The pulse on the first visit was 120, on the 26th, 108, and on the 27th, 102, and irregular. It was small and wiry from the first.

Respiration was not much accelerated, but on the 26th and 27th it was of the Cheyne-Stokes type. Percussion and auscultation were negative.

Herpes developed early and was most marked on the lips and buccal surfaces with some spots on the chin and on one cheek. At my first visit there were bright red spots of various sizes on the face and body which did not disappear on pressure. They became much darker and less marked by the 26th.

Vomiting was a troublesome symptom for the first two days. The tongue had a thick yellow coating and was very dry at first, and in a few days became glazed, dark and fissured. The appetite was very poor. Constipation was marked at first, but a mild laxative produced quite a copious diarrhœa. There was never the slightest tenderness over the abdomen nor any tympanites.

The urine was about normal in quantity and contained traces of albumin.

Death took place on the 27th, nine days after coming home, the patient being comatose for about eighteen hours. Decomposition was very rapid; twelve hours after death it was very difficult to approach the corpse, which was quite black and offensive, and the skin would slip from the flesh on slight pressure.

The history of the older boy is very similar, but the temperature ran a much lower course, falling irregularly from 102.5°F. on the 21st to 99°F. on the 27th, and rising again to 100°F. on the 30th, which was the last time I saw him. The pulse on the 27th ran from 78 to 96, varying that much in a few minutes. It was small and wiry. Marked variation was noted right through his case, counting ten to twenty beats more at one time than it would ten minutes later. On March 30th, the day before death, it was intermittent.

The delirium in this case was of the low, muttering type right through.

The bright red rash was less marked than in his brother's case, but there were large blotches of a dark red colour developed on his back a day before his death.

Twenty-four hours before death the odour of decomposition was very strong, and by drawing the finger with firm pressure over the body the epidermis would tear and roll up like a piece of wet wrapping paper, while the slightest touch would leave a dark red mark. Death occurred on April 1st, eleven days after coming home.

In neither of these cases was there paralysis or very marked contractions. Though Kernig's sign was more marked in the elder brother's case, it was quite well marked in the other. In the former the legs could not be straightened much beyond a right angle when the patient was sitting up in bed. If, as is claimed, this sign indicates meningitis, we may ask: Had these boys la grippe, or did they only have meningitis or cerebro-spinal meningitis? From what I could learn of the sickness they had early in March, I think they then suffered from that most protean of all diseases, la grippe, and that their subsequent exposure to the hardships and insanitary conditions of lumber-camp life along with their tramp home in a snowstorm in their weak condition brought on cerebro-spinal meningitis as a complication.

SURGICAL KIDNEY FOLLOWING CYSTITIS.

BY

R. E. WEBSTER, M.D.,

Gynæcologist to the Protestant General Hospital, Ottawa.

Agnes T., aged 27 years, married, par. iii., a pale, emaciated, very septic-looking woman, was admitted to hospital on April 10, 1899. Her present trouble dates from a confinement two months ago, following which, she gives a history of chills, fever, and sweats for two weeks. One week after her confinement she began to have frequent and painful micturition and noticed a creamy deposit in the urine the following week. Pus in varying quantities continued in the urine up to the date of her admission to hospital. A week following the attack of cystitis patient began to have pain in the left lumbar region, sometimes quite severe and at times running down the left thigh. The urine showed a gradually increasing amount of pus, but the symptoms of cystitis abated a good deal.

Her regular medical attendant having pronounced her all right, telling her the symptoms would "wear away," and having refused to give her any further treatment, Dr. Scott was called in, and on making a diagnosis of surgical kidney, kindly referred the case to me for operation.

On examination, a great deal of fulness and tenderness is readily made out in the left lumbar region. Dulness extends from the crest of the ilium to the 11th rib, and from the spine to within about three inches of the umbilicus. A large mass well made out in this region presents no fluctuation, but great tenderness on pressure. The temperature is running a typically septic course, ranging from 103½°F., to 98°F. The patient complains of chills, sweats, pain in the side, soreness on moving, and loss of appetite. The tongue is dark brown, heavily coated, and the breath fetid. Her general appearance shows a very septic condition; pulse 130.

A cystoscopic examination, after washing out the bladder, shows pus of a thick yellowish character oozing from the left ureter. Catheterisation of the right ureter gives a normal sample of urine. The bladder mucous membrane is congested considerably. A sample of the pus from the left ureter collected through the cystoscope pushed up against the bladder wall, as the pus issuing from the ureter would not flow through the ureteral catheter, which passed readily into the ureter however. Microscopic examination by Dr. Mayberry shows an enormous amount of pus cells, but no tubercle bacilli. The amount of urine in twenty-four hours amounts to only 17 ounces.

The Family and Past History are negative.

Operation. On April 13th, the patient was anæsthetised and a lumbar incision made below the border of the twelfth rib and the kidney exposed. The capsule was found adherent and the kidney enormously enlarged, extending from the diaphragm to above the level of the crest of the ilium below. The kidney substance was so thin and friable that it ruptured almost immediately and about a quart of thick pus poured out. The patient being very weak, the kidney was rapidly enucleated, the ureter, vein, and artery secured by a clamp, and the cavity washed out and packed with iodoform gauze.

Some shock followed, but the patient rallied nicely. The wound was dressed on the second day and the clamp removed; it closed rapidly and the temperature reached normal at the end of ten days. The urine increased daily and reached a normal quantity on May 8th, on which date the patient was sitting up and feeling well, with a normal temperature and a good appetite, and was rapidly gaining flesh. She was discharged on May 15th with the wound healed completely.

This case was evidently one of primary infection from the bladder extending up the ureter. The fact that the large amount of pus escaped from the ureter, and the fact that the uretral catheter passed readily into the ureter, excludes the idea of any stricture of the ureter which the enormous pus collection might suggest.

CYST OF THE EPIGLOTTIS.*

BY

H. D. HAMILTON, M.A., M.D.,

Laryngologist to the Montreal General Hospital and to the Montreal Dispensary.

A youth, aged 16 years, applied in October, 1898, for relief from the following symptoms:—Difficulty in swallowing, nasal voice, snoring, and cough. The symptoms were not at all distressing (except the snoring), but the peculiar "right turn" he had to give his head in swallowing formed the chief reason for consulting a physician.

The boy's facial expression was typical of mouth-breathing of long standing, but he was otherwise in good general health. He presented a letter from his physician in Glasgow, the substance of which was that the boy had suffered from great lymphoid hypertrophy "over the whole of the upper respiratory tract." He had had no adenoids, but the base of the tongue had been very troublesome. A large cyst had been removed from the right vallecula. The boy had been under treatment for thirteen months previous to sailing for Canada.

Upon examination of the mouth, pressure on the tongue caused a bladder-like mass to spring into view, as large as a small hen's egg. With the larygoscope this tumour could be seen occupying (I), the whole of the upper (or lingual) surface on the right side of the epiglottis; (II), the right vallecula and slightly extending to the under surface of the epigottis It completely obscured the entrance to the larynx. The tonsils were not large and the post nasal space was clear. The treatment consisted of evacuating the pale green-coloured gelatinous contents, curetting the interior of the cyst and injecting six drops of a five per cent. solution of carbolic acid in glycerine and water.

One week later the boy, although much relieved of his loud snoring, still swallowed clumsily, as the cyst had slightly refilled. It was again emptied and injected with ten drops of a five per cent. solution. The third week, there was found still less fluid, and fifteen drops of a ten per cent. solution were injected. During the week following, the boy contracted an acute tonsillitis; the cyst caused a very bad taste and breath, and as soon as he could call again the cyst-lining was lifted out in one sloughing mass.

The patient has been seen every two months from that time (November, 1898,), the last inspection being made during the week just passed, and the site of the cyst, on the epiglottis, is quite flat, although the lymphoid tissue (i.e., the lingual tonsil) in the neighbour-

* Read before the Montreal Medico-Chirurgical Society, May 29th, 1898.

hood is very abundant. This the boy objects to have removed, as he feels perfectly well in every way.

For three years previously this lad had been sent to different health resorts in Great Britain for what was termed "a laryngeal affection." Cough and thickness of speech were the symptoms and these were not absent for any length of time, until the cyst-lining had been removed.

Glandular elements are contained in the soft tissues of the vocal bands and epiglottis, and hence it is readily understood how cysts occur most frequently upon these parts when the secretory duct of a mucous follicle becomes blocked. Nevertheless, cystic tumours of the epiglottis are amongst the rarest benign tumours found in this organ. The first on record was reported by Durham in 1863, a cyst of the epiglottis.

Different methods of treatment have been advised according to the characters and size of the tumours, but when a snare loop cannot take hold of the swelling the treatment by injection seems very satisfactory.

RETROSPECT

OF

CURRENT LITERATURE.

Medicine.

UNDER THE CHARGE OF JAMES STEWART.

Serumtherapy in Pleurisy with Effusion.

A. BRETON. "Sérothérapie dans la pleurésie sereuse."—*Gazette des Hôpitaux*, 1899. Nos. 25 and 27.

The writer bases his article on three cases of pleurisy with effusion in which he obtained a favourable result by injecting subcutaneously into the patients small quantities of their own effusion. Taking for granted the truth of Landouzy's assertion that "every pleurisy which cannot be proved to be due to trauma, rheumatism, or some other ascertainable cause, is to be suspected of a tuberculous nature," he concluded that the pleural effusion, known to contain tuberculin as a product of bacillary growth, might prove useful as a vaccine in such cases. Gilbert (of Geneva), in 1893, and Scarpa, in 1896, had already anticipated this method of treatment. The former treated twelve cases of pleurisy by hypodermic injection of the pleural liquid. In two cases there was no reaction or any effect on the effusion. In the others there was a rise of temperature to 38.5°C.-40°C., and from the date of the injection there was a rapid absorption of the effusion (six to ten days), accompanied by an alleviation of the symptoms and an amelioration of the general condition of the patients. All of the patients were well in a fortnight or three weeks.

Scarpa, in nine similar cases, was successful in six and failed in three, but claims that in the latter the pleuritic serum had a favourable effect on the tuberculous lesions in the lungs. While admitting that he was not in a position to prove the tuberculous nature of his cases by inoculations of guinea pigs with the effusion, Breton adduces the evidence of others who have done work in this direction. (Ricochon, Netter, Prince Ferdinand-Louis of Bavaria, Lemoine, Aschoff, and Le Damany) and the statistics published in Germany, where 87 per cent. of cases of pleurisy reacted to injections of tuberculin. His personal

observations rest on three cases of which the following is a summary:—

The method employed was to remove a small quantity of the effusion with an exploratory needle and then, withdrawing the point of the needle as far as the subcutaneous tissue, to inject the fluid under the skin. The quantity used was from 2 to 5 cc., and the injections were repeated at intervals varying from three to four days to a week.

The first case was that of a man 57 years of age, who, two months previously, had an effusion in the left pleura, and was readmitted to the hospital with the same complaint. There were no pulmonary lesions or cardiac complications and there was no fever. In all, six injections of the pleural effusion were made, in a period of a little over a month. A slight rise of temperature was noted only twice during the course of the illness, the first, on the day following the first injection (38°C.), the second, four days after the fourth injection. Thirty-six days elapsed between the first injection and the absorption of the effusion.

In the second case, a young woman, twenty-two years of age, with an effusion on the right side, had suffered from anæmia for some time, and on two occasions from bronchitis. The pleural effusion, on her admission. reached as high as the spine of the scapula, and there was much dyspnœa. The pulse was 90, the temperature 38.1°C. The first injection of 5 cc. of pleural effusion was followed by malaise and vomiting, which lasted until the following day. A second injection was given four days later. Two days after the first injection the effusion began to subside and the general condition to improve, and this improvement continued after the second injection so rapidly that by the end of a week from the date of the first injection no fluid could be obtained by aspiration at different levels, and the breath sounds were well heard from apex to base, in which latter situation there was a friction rub. A little dulness remained at the base of the lung. A skiagraph picture taken eleven days later showed only a slight shading at the base of the right lung, due to the thickening of the pleura.

In the last case, that of a girl 16 years of age, a left-sided pleurisy began five days before entrance into the hospital. Breathing was audible only above the spine of the scapula, and the heart was much displaced downwards and to the right. Temperature, 37.8°-38.6°C.; pulse, 104; respirations, 24. Four days later exploratory aspiration and injection of 2 cc. of the effusion was performed. There was no febrile reaction beyond 38.2°C. From this date the temperature did not at any time rise beyond 37.6°C. A second injection of 5 cc. was made two days later, and a third three days after the second. Five days after the first injection the apex beat was palpable, one centimetre within the left nipple, and there were dulness and bronchial breathing only

over the lower third of the left lung. Three days later a skiagraph picture showed the heart in its normal situation and an opaque area in the lower third of the left side of the thorax. A fourth injection of 5 cc. was given on September 22nd, five days after the third, and on October 1st no effusion could be obtained on exploratory puncture. The patient was discharged October 14th, at which time it was impossible to find clinically any trace of a former effusion or any lesion of the lung. The effusion was completely absorbed eighteen days after the first injection of serum.

The writer thinks that he is justified in claiming that the injections shorten the duration of the effusion which is usually considered *in statu quo* until about the third week, according to Talmon and Lancereaux even longer. There appears to be, moreover, a favorable effect on the heart and on the respiration. The conclusions drawn are:—

(1) That the pleural effusion may be considered to be an attenuated tuberculin.

(2) That this liquid may be injected subcutaneously without doing any harm.

[It would be well in order to avoid a possible auto-infection from the presence of tubercle bacilli in the effusion, to centrifugate the exudate in sterilized tubes before injecting it subcutaneously].

Phloridzin in the Diagnosis of Renal Disease.

CH. ACHARD. "L'Exploration clinique des Fonctions Rénales et la Glycosurie Phlorhidzique."—*Gazette des Hôpitaux*, 1899, 22.

The usual methods of clinical examination of the urine furnish the means of determining qualitatively and quantitatively the *spontaneous* elimination by the kidneys of substances which are normally present in the urine, or of those that are abnormal. Further information may, however, be obtained by inducing, by special tests, the passage through the kidneys of some special substance. The principle of this method may be summarized as follows:—To introduce beneath the skin a substance that is easily eliminated by the urine but is not found in the normal urine, and to observe methodically the general and the special features of its elimination. Methylene blue has seemed specially appropriate for this purpose, but as the principle is a general one it is evident that other substances may be used. Apart from such substances as are never normally present in the body tissues or fluids (i.e., purely foreign bodies), and those that are normal constituents of the urine, there is an intermediate category of substances (represented by glucose) existing in the blood but not passing into the urine normally. In a series of researches both in diabetes and in artificial glycosuria, it was found that a diseased state of the kidneys impaired the elimina-

tion of glucose. Hence, as it is easy to produce artificial glycosuria in various ways, it will readily be seen that this method affords a means of studying the renal functions. It is obvious that the glycosuria must be induced without introducing sugar itself into the organism. This may be done by phloridzin, which is harmless and possesses, moreover, the peculiar advantage of inducing glycosuria by a direct action on the kidneys. Klemperer found that the injection of phloridzin did not produce glycosuria in a certain number of individuals who had undoubted renal disease. Basing himself on these observations, Achard has devised a method for the clinical use of phloridzin.

Five milligrams are injected subcutaneously, and the urine is collected and examined methodically for sugar from the time of the injection. It is, of course, necessary to prove by a preliminary examination that the urine does not contain sugar before the test is applied. When the kidneys are healthy sugar is eliminated for about three hours, the quantity varying from five centigrams to two and a half grams. In a majority of cases in which the symptoms suggest impaired renal function, there is no sugar, or only a trace in the urine. The value of the test has, moreover, been proved by a number of autopsies. This test may be combined with the test by methylene blue, one controlling the other.

Kernig's Signs in Meningitis.

J. B. Herrick. "Concerning Kernig's Sign in Meningitis,"—*American Journal of the Medical Sciences*, July, 1899.

The revival of interest in this important sign of meningitis is timely. Kernig, in 1884, pointed out that in those suffering from menigitis, extension of the leg when the patient was sitting was painful and difficult owing to a marked flexor contraction of the thigh muscles, whereas when the patient was lying down the leg could easily be extended. He found this sign present in every one of fifteen cases examined, and failed to find it where there was no meningeal affection. In six cases, though there was not acute meningitis, the sign was more or less marked; in these cases there was some abnormality of the pia mater—œdema, intermeningeal hæmorrhage, etc. He considered that it was present as early and remained as late as rigidity of the neck.

Herrick reviews the literature and notes that most of the text-books do not mention the sign. Netter, in 1898, brought it into notice once more and recorded the presence of Kernig's sign in 90 per cent. of his cases. Herrick found the sign in seventeen out of nineteen cases, or 89.4 per cent. In the two negative cases, there was only one examination shortly before death, and at the time there was general muscular relaxation. In the series, there were nine cases of epidemic cerebro-

spinal meningitis, seven of tuberculous meningitis, two of pneumococcal meningitis, and one of syphilitic meningitis. In one hundred cases of disease other than meningitis, the test was absent in ninety-eight, and present in two. One of these latter was a case of subdural hæmorrhage, the other a gonorrhœal arthritic in which the unaffected leg had remained for a long time in the flexed position. Netter recorded a case of typhoid fever in which the test was present. The patient died, and the autopsy showed typhoid ulceration of the bowels and a cerebro-spinal meningitis due to a mixed infection of B. typhosus and staphylococcus pyogenes. Herrick concludes that the test is present in 80 to 90 per cent. of cases of meningitis and only occasionally present in other affections.

The technique of eliciting the sign is simple. "The patient may be made to sit up on the edge of the bed with the legs hanging down, thus bringing the thigh at right angles to the body, when extension of the leg can be attempted; or the thigh can be brought at right angles to the body as the patient lies in bed on the side, or preferably on the back, and the leg then extended." In delirious patients and in spastic conditions there may be some resistance at first, which is easily overcome, but not so in meningitis where the flexion remains and the patient's back may be lifted from the bed in the attempt to extend the leg on the thigh. The attempt at forcible extension produced evident pain, even in those patients who appear to be profoundly unconscious. Local causes must be excluded before concluding that the sign is present, e.g., arthritis of the hip or knee, myositis, old contractures, and, particularly, sciatica. There is no satisfactory explanation of the phenomenon. It is not due to increased intracranial pressure, for the sign is not present in hydrocephalus, in cerebral tumours, or in cerebral hæmorrhage. There is normally some difficulty in fully extending the leg when the thigh is flexed at an acute angle on the body, owing to the shortness of the flexors of the leg and the abundance of tendinous fibres in them, and it may be, that in meningitis the normal tonus is so exaggerated that a flexor contracture results when the thigh is brought up towards the abdomen.

H. A. Lafleur.

Surgery.

UNDER THE CHARGE OF GEORGE E. ARMSTRONG.

Suprapubic and Perineal Cystotomy.

DANDRIDGE, "A Comparison of the merits of Suprapubic and Perineal Cystotomy."—*Annals of Surgery*, July, 1899.

Dr. Dandridge, of Cincinnati, has produced a very thoughtful paper on this subject. After reviewing the history of the two operations and showing that the suprapubic method is not a new one, the writer goes on to discuss the merits and demerits of the two operations. He shows that the technique of suprapubic cystotomy has considerably changed since the days of Petersen's bags, and that now the Trendelenburg position with the bladder distended with some antiseptic solution, or by air, gives full access to the viscus without much danger of wounding the peritoneum. He next goes on to consider the conditions which render any form of cystotomy necessary.

(1) *Drainage for cystitis.* This may be only temporary, due to removable causes of obstruction, or it may require to be permanent because the obstruction is non-removable. The writer expresses a strong preference for the perineal as opposed to the suprapubic drain. He argues that the suprapubic opening causes adhesions between the apex of the bladder and the abdominal wall, and thus prevents the proper contraction of the bladder on the urethral opening, which is necessary to a complete emptying of the organ. He argues that nature intended the urine to discharge below the pubes and any attempt to make it go otherwise carries its own penalty with it. Further, he maintains that the perineal opening is more likely to close spontaneously, and to remain closed, than the suprapubic one. This contention was combatted by Dr. J. William White in the discussion of the paper before the Philadelphia Academy of Surgery. Dr. White holds that cystotomy is much too frequently resorted to for drainage, as most of these cases could be better treated by the use of the permanent catheter, which could be safely retained for six weeks if necessary. [We have lately in the wards of the Montreal General Hospital been able to demonstrate the truth of this statement of Dr. White's]. But should drainage be rendered necessary by urethral obstruction, a perineal drain would give the best prospect of relief; on the other hand should there be obstruction due to prostatic disease, suprapubic cystotomy would give the best outlook for relief.

Dr. White also disputed Dr. Dandridge's statement that suprapubic cystotomy was much more dangerous than the perineal operation. His (Dr. White's) statistics proved that while it was more dangerous in children it was not so in adults, while in old persons the suprapubic method was safer. He also denied that there was more danger of a permanent suprapubic fistula, while he admitted that all artificial drainage openings were a nuisance to the unfortunate patient. Our own experience is that for the relief of urgent retention, suprapubic puncture is preferable to prolonged efforts to introduce a catheter over an inflamed prostate, and is almost absolutely safe at any age; but this apart.

(2) *Cystotomy for Stone or Tumours of the Bladder.* In this condition both Dr. Dandridge and his friendly critics agree with Thompson, that crushing is much preferable to cutting in the great majority of cases. But there is always a residue, as Dr. Keys points out, in which opening the bladder is necessary for the complete removal of the stone, e.g., (1) when the stone is excessively large and an oxalate (2) when it is encysted, (3) when it is complicated by tumour, (4) when it has some foreign body as a nucleus. In these cases it does seem that the suprapubic route is preferable to the perineal, except in the case of children. One might think of Dr. White's suggestion to crush through a perineal median incision.

Prostatectomy, complete or partial, was generally looked down upon in the discussion, the feeling being that it had been overdone and that the results were not commensurate with the risks. Hence the revival Bottini's operation, or the modification of it recently proposed by Guiteras, of New York. This blind use of the galvano-cautery in a place (the prostate) exposed to decomposing urine and especially prone to septic absorption, seems to us to be, *a priori*, an unsurgical procedure. Suprapubic prostatectomy, if one has no faith in castration and catheterization cannot be carried out, seems much preferable to even the modern substitutes for Bottini's operation.

One thing appears certain so far as can be gathered from this able paper and the discussion of it, and that is that the suprapubic operation in properly selected cases has a future before it and will well repay the attention of thoughtful surgeons.

Sterilization of Silk Ligatures and Sutures.

HAYLER. "Sterilization of Silk Ligatures and Sutures."—*Centralblatt für Chirurgie*, No. 5, 1899.

Dr. C. Hayler, of the Basel clinic, gives his experience with silk ligatures and sutures. He maintains that it is impossible to use silk, which has been sterilized by boiling only, in surgical operations. He admits

that boiling will sterilize it, but proves that if this same silk is drawn through the properly sterilized hands of the operator, as in tying a ligature or suturing a wound, it becomes infected. But if this boiled silk is kept in a solution of corrosive sublimate in alcohol, or boiled in this solution alone for a few minutes, it will not become infected, even though the hands using it are not very clean. It would seem to an outsider as though clean hands could not infect sterile silk, and that the inference to be drawn from the infection was that the hands were not sterile. However, if silk has such an affinity for sublimate that subsequent soaking in boiled water or washing in alcohol will not remove the sublimate from its fibres, as Dr. Hayler asserts, then by all means keep it in sublimated alcohol. Our hospital experience shows that silk sutures are much more likely to be followed by stitch abscesses than some non-absorbent material—such as silk-worm gut,—while the same silk gave no trouble when buried as a ligature and therefore exposed to no further infection. It does seem as though the skin of a patient would only remain aseptic for a certain period, say five days, and that then the fibres of the sutures conveyed the infection through the skin. We shall take an early opportunity of testing Dr. Hayler's contention that this would not have occurred if the silk had previously been sublimated. This subject is one of great importance to the general practitioner in his surgical work for he can more readily procure and sterilize silk than any other material, and it is well that he should be able to feel perfectly safe with it. We will, therefore, in a future number, give our readers the benefit of our observations upon it.

J. M. Elder.

Ophthalmology.

UNDER THE CHARGE OF FRANK BULLER,

Diseases of the Eye.

TROUSSEAU. "Eczema of Eyelids and its Treatment."—*Archives d'Ophthalmologie*, February, 1899.

RÆHLMANN. "Blepharitis Acaria."—*Klin. Monatsblt. für Augenheilkunde*, February, 1899.

Trousseau groups eczema of the eyelids into (1) that of medium intensity, (2) the acute irritable form, and (3) chronic eczema. For the eczema of medium intensity, he applies lukewarm compresses of cyanide of mercury, 1-10,000, for half an hour morning and evening, and if there be any conjunctivitis the same solution is instilled into the eyes. This condition generally results in cure, but if it remains stubborn an ointment is applied, at first of simple lard and later of zinc oxide or yellow oxide of mercury of a strength of 1 in 40. The contra-indication for the ointment is the presence of ulcers or much irritation.

For the acute type Trousseau never applies any strong antiseptic, but merely warm water for cleansing. He uses tepid water in the morning and a cataplasm at night. When the irritation has nearly disappeared, boracic acid or bicarbonate of soda is applied as a compress for twenty minutes morning and evening, then later cyanide of mercury is substituted. Ulcers, when present, should be touched with a two per cent. solution or dusted with a powder composed of talc, salicylate of bismuth or bicarbonate of soda mixed with prepared chalk, the lids being closed and absorbent cotton applied over their edges to prevent any powder getting into the eyes. The lids must be kept closed until morning. If there be much itching of the lids, they must not be scratched, but may be touched with nitrate of silver or cleansed with solutions of bicarbonate of soda or weak alcohol. When the disease has been brought under control, treat it as indicated for the type of medium intensity.

In the chronic, torpid variety, compresses of cyanide of mercury are applied for twenty minutes morning and evening, after which an ointment of yellow oxide of mercury, resorcin, carbolic acid, or lanolin and oil of cade with a base of vaselin, is applied at night.

In blepharitis acaria the demodex folliculorum is the cause of the disease. On epilating the lashes and examining them in water on a slide with a low power the male and female parasites, eggs, embryos,

excreta, etc., can be seen adhering closely to the shaft of the hair. The subjective symptoms are itching and falling out of lashes.

Objective symptoms are usually present and consist of hyperæmia of the inner zone of the lid-border and also of the outer border and, generally, localised hyperæmia of the conjunctiva. Frequently a sticky secretion hangs in clumps to the bases of the hairs. This disease exists in twenty-five per cent. of the cases of trachoma.

Treatment consists in the application of an ointment of one part of balsam of Peru to three parts of lanolin, under which rapid cure ensues.

Diseases of the Conjunctiva.

De Wecker (Paris). "Mode of Origin of Conjunctivitis."—*La Clinique Ophthalmologique,* January 10, 1899.

Coppez (Brussels). "Relation of Follicular Conjunctivitis to Adenoid Vegetations of the Naso-Pharynx."—*Archives d'Ophthalmologie,* January, 1899.

Kuhnt. "Curative Value of the Operative Treatment of Granular Conjunctivitis."—*Zeitsch für Augenheilkunde,* Bd. I.

Galezowski. "Excision of Conjunctival Cul-de-Sac in Granular Conjunctivitis."—*Recueil d'Ophthalmologie,* January, 1899.

Salva. "Spontaneous Conjunctival Hæmorrhage."—*Annales d'Oculistique,* March, 1899.

Peck, E. S. (New York). "Argonin and Protargol in Blenorrhœa Neonatorum."—*Medical News,* January 21, 1899.

Dr. Wecker holds that the conjunctiva is always infected secondarily to the lids on which the germs at first develop; hence the indications for treatment are early sterilization of the edges and skin surfaces of the lids with cyanide or oxycyanide of mercury. In the newly-born infant this should de done immediately after the first bath.

Coppez insists on what has already been frequently stated in regard to the close relation between adenoid growths of the naso-pharynx and follicular conjunctivitis. Upon the removal of these growths the eye condition rapidly improves and is easily amenable to treatment.

Kuhnt, in his article on trachoma, advises the use of drugs in all mild cases and in districts where the disease is not endemic. If the cornea seems in danger and the condition does not improve under the above treatment, he early resorts to the use of the galvano-cautery or the expression of the granules with the roller forceps. If expression fails, he tries excision.

Galezowski's favorite treatment is the mitigated nitrate of silver

stick which consists of nitrate of silver and nitrate of potassium. If this is unsuccessful, he excises the conjunctival cul-de-sac from angle to angle of the lid, being very careful to excise *only* the conjunctiva and scrupulously to avoid the tarsus.

Salva's case was a hysterical girl who had had conjunctival hæmorrhages for two years, which latterly occurred as frequently as every two hours, by night as well as by day. Menstruation was regular and all the body functions normal. The blood came from no particular spot, but apparently filtered through the entire surface of the conjunctiva. Cure was obtained after several cauterisations with a 10 per cent. solution of protargol, thrice daily.

Peck speaks in highly laudatory terms of both argonin and protargol, holding that they are the first drugs introduced to replace nitrate of silver which can really accomplish what the latter drug does, i.e., destroy the gonococcus. Protargol contains 8.3 per cent. of silver, nitrate of silver contains 6.35 per cent., and argonin 4.3 per cent. Argonin in a two per cent. solution kills the gonococcus in a short time, whilst protargol, which is more irritating, is at the same time more rapid in its germicidal action. He recommends protargol highly in ophthalmia neonatorum, as it produces more favorable and earlier results than nitrate of silver. In some cases the gonococcus disappeared in two weeks, in none later than four weeks, whereas with nitrate of silver the average persistence of the germ was five weeks. Protargol is used at the outset in a strength of ten per cent. freely irrigated over the conjunctiva three or four times daily, then, as the secretion gets less, thinner, and shreddy, the strength of the solution is reduced to two per cent. and it is used less frequently. Every other day the secretion should be examined for gonococci, and only after the absence of the germ for a full week should the eye be regarded as safe enough to be in contact with the mother.

In gonorrhœal ophthalmia in the adult protargol was used at first in a strength of fifty per cent. two or three times daily and allowed to remain in the eye three minutes. Later, a five per cent. solution was used and allowed to remain in the eye fifteen minutes. The last solution was the most satisfactory.

Hypopyon-Keratitis.

Bonivento, Giov. "Hypopyon-Keratitis Treated with Airol."—*Klin. Ther. Wochenschrift.* 1898.

Zirm (Olmutz). "Treatment of Hypopyon-Keratitis."—*Weiner Klin. Wochensch.*, November 9, 1898.

Bonivento's report of his treatment of forty cases of hypopyon-keratitis with airol appears very convincing as regards the value of the drug

in this disease. Airol acts especially by diminishing injection, causes no pain, is odourless, non-toxic and harmless. It is dusted into the eye twice daily. It is an almost certain preventive of corneal perforation and also cuts short any accompanying purulent conjunctivitis and dacryocystitis.

Airol is composed of bismuth, gallic acid and iodine, which latter is broken up when the drug comes in contact with the tissues. Prolonged use of airol does not give rise to eczema as in the case of iodoform.

Zirm treated hypopyon-keratitis in much the same manner with airol and with good success. He, however, found airol rather irritating and accordingly substituted xeroform with very gratifying results. He dusted xeroform over the cornea thrice daily and used an emulsion of the drug for the lachrymal sac. When necessary, he also used the galvano-cautery.

Irititis due to Nasal Disease.

LEFRANCOIS (Cherbourg). "Iritis of Nasal Origin."—*Recueil d'Ophthalmologie*, March, 1899.

The patient was a young woman who suffered from kerato-iritis. She had a slight leucorrhœa and had not menstruated for five months, though not pregnant. Under treatment the uterine trouble disappeared, but the ocular condition remained unchanged. She had a fœtid, mucopurulent, bloody discharge from the nose, and on this condition being treated, the eye trouble rapidly improved, the vision in a month being one-half the normal and in three months normal. Lefrancois considers the uterine condition as a predisposing, and the nasal as an exciting, cause of the disease.

Choroiditis of the Macular Region.

BURRI. "Subconjunctival Injections of Sodium Chloride in Macular Choroiditis."—*Zeitsch für Augenheilkunde*, Heft I., Bd. I.

DARIER (Paris). "Treatment of Macular Choroiditis."—*La Clinique Ophthalmologique*, March 10, 1899.

Out of seven cases, Burri got improvement in all and very brilliant results in three. Cocaine is instilled and then a Pravaz syringeful of sterilized sodium chloride solution is injected under the conjunctiva every day. After the injection a moist compress is applied over the eye and the patient remains in bed for four hours. The strength of the solution may be two, four or ten per cent.

Darier claims very good results from the injection of cyanide of mercury subconjunctivally. The strength of the solution is 1 to 5,000 of the cyanide in a 1 in 50 salt solution.

Optic Nerve.

WINGENROTH (Karlsruhe). "Optic Neuritis following Influenza."—*Klin. Monatsbl. für Augenheilkunde*, March, 1899.

CRAMER. "Optic Neuritis as the Result of a Blow on the Head."—*Græfe's Archiv. xlvii, Ab. 2.*

DEWECKER. "Danger in the Specific Treatment of Optic Atrophy."—*Annales d'Oculislique*, February, 1899.

Wingenroth's report of three cases of optic neuritis is interesting in that in all three a syphilitic cause was clearly excluded and influenza alone could be considered as the etiological factor. Despite this, all ordinary forms of treatment failed and cure was only obtained by thorough mercurial inunction. During the treatment, if the patient showed any increase in weight, the amount of ointment was forthwith increased.

Cramer's case is notable in that fracture or lesion of the base of the brain could be excluded. The patient fell forward, struck his forehead, and was unconscious. Ophthalmoscopic examination revealed double optic neuritis. Any chance of a cerebral tumour being the cause of the neuritis was finally excluded. Cramer concludes that the contusion set up a tuberculous meningitis which gave rise to the optic neuritis. Cramer then mentions the statement of Bergmann that the meningeal symptoms following an injury closely resemble those of tuberculous meningitis.

DeWecker strongly inveighs against the specific treatment of optic atrophy in cases of tabes dorsalis, as he holds that it is useless and indeed does harm.

Glaucoma.

WALTER (Odessa). "Internal Treatment of Glaucoma."—*Die Ophthalmologische Klinik*, November 5, 1898.

ABADIE (Paris). "Nature and Treatment of Glaucoma."—*Archives d'Ophthalmologie*, April, 1899.

ROGMAN (Gand). "A Glaucomatous Family."—*La Clinique Ophthalmologique*, April, 1899.

Walter, acting on the theory of the relation between glaucoma and gout, treats his cases by the administration internally of piperazine. One gramme is given daily. At the same time he does not ignore the local treatment, but holds that the internal treatment is a very valuable adjunct to the other.

Abadie, in his article, strongly avows the vasodilatation theory and

advises excision of the superior cervical ganglion for the cure of simple chronic glaucoma.

Rogman's series of cases of glaucoma in one family are very suggestive. The grandmother had fulminant glaucoma, the mother had acute glaucoma at the age of sixty-two, and of the latter's seven children, three out of seven sons had prodromata, in one followed by an acute attack. The disease appeared at an earlier age in each of the succeeding generations.

Ocular Therapeutics.

ULRI and FREZALS. "Researches into the Penetration of Aqueous Collyria of Potassium Iodide into the Eye."—*Archives d'Ophthalmologie*, January, 1899.

"Absorption of Collyria by the Cornea."—*Ibid.*, March, 1899.

"Aqueous Collyria of Salicylate of Sodium."—*Ibid.*, February, 1899.

SCRINI. "The Oily Collyria."—*Archives d'Ophthalmologie*, January, 1899.

STRAUS (Brooklyn). "Experiments as to the Germicidal Properties of Certain Eye Salves."—*Archives of Ophthalmology*, January, 1899.

Badal has been using collyria of iodide of potassium in connection with the internal administration of the drug. Ulri and Frezals, as a result of their investigations on rabbits' eyes, find that applied to the conjunctiva, iodide of potassium does penetrate into the aqueous humour but not into the vitreous until it has entered the general circulation. If taken internally in medium doses the media of the eye do not give any iodide reaction. Used internally and also at the same time as a collyrium, a much greater quantity enters the aqueous.

In the second article quoted above, Ulri and Frezals state that absorption of aqueous collyria by the eye takes place through the cornea into the aqueous humour and only in infinitesimal quantities through the conjunctiva. The cornea does not absorb oily substances, but only after they have been first dissolved by the tears.

As regards the aqueous collyria of salicylate of sodium, they find that using this drug as an aqueous collyrium, a larger amount of it can be thus caused to penetrate the eye and reach the vitreous than by ingestion. The practical application has thus far been very limited, but the results are promising.

Scrini's article on oily collyria is the second which he has published. He holds that increased power and rapidity of action are obtained by using many drugs in an oily solution, e.g., eserin. He has experimented with duboisine, homatropine, scopolamine, daturine, cocain, and holocain.

Straus' experiments with eye-salves on pyocyaneous, staphylococcus aureus, and bacterium coli are of value. Most of the salves diminished the vitality of bacteria, but act as germicides only after several days of continuous application. The following is the list in order of effectiveness:—

Iodia, 5 and 10 per cent.
Iodine, 5 and 10 per cent.
Hydrarg. oxid. flav., 2 per cent.
Iodoform, 5 and 10 per cent
Airol, 5 and 10 per cent.
Thioform, 5 and 10 per cent.
Aristol, 5 and 10 per cent.
Vaselinum alb. pur.

The great point in favor of the salves is that the prolonged continuous action of the drugs is assured.

J. W. Stirling.

Reviews and Notices of Books.

THE NATURAL HISTORY OF DIGESTION. By A. Lockhart Gillespie, M.D., F.R.S., Edin., Lecturer on Materia Medica and Therapeutics in the Medical School of the Royal Colleges, Edinburgh. Illustrated by Figures, Diagrams and Charts. London, Walter Scott, Limited, 1898.

The present work, one of the Contemporary Sciences Series, gives the most complete account of digestion yet published. It is comparative in the boldest sense of the word and deals not only with the digestive processes in animals in different groups, but also in plants. The term "digestion" is used in a sense sufficiently wide to include such subjects as "absorption," "the micro-organisms of the alimentary tract in the higher mamals," "the senses in relation to digestive metabolism, dietetics and animal heat," with, of course, a discussion of foods. With increasing specialization, there is danger of losing sight of general relations, and the ever-growing mass of details may become a real impediment to mental digestion. A mere glance at the headings of the chapters in such a work tends to keep related things in their true perspective.

Naturally, this work is made up largely of material gathered from other publications and sufficiently recast to suit the author's general purpose. The writer is, however, not a mere compiler or bookmaker, but has worked upon the subject himself as an original investigator. Although we have now in our English language works on physiology as a whole, the several departments of which have been treated by well-known specialists, there is still room for such books as the present, and will be till we have a cyclopedia of physiology, an undertaking which will scarcely be justified till the profession realises more clearly than now the extent to which permanent advance depends on knowledge of the functions of the normal animal. Had the world been in possession of the very knowledge we possess to-day in such an important department as pathology, if it is possible to conceive of such a thing, while the conception of vital processes remained such as they were even one hundred years ago, the interpretation and practical application would no doubt have been failures. Yet, in spite of the lessons of bacteriology (the contributions of pure scientists in the first instance) medical men are still prone to belittle what is not capable of immediate application, though a notable change is observable and the leaven is working from above downwards from the broader, more

penetrating intellects down to the rank and file of the profession. In the meantime, the physiologist and physiology share the fate of all inadequately recognized workers and works. All the more gratified should we be for a book which must have as yet a limited sale and whose author must work for some other source of satisfaction, paragrapher, or the books of the crowd—medical or other.

The illustrations, largely borrowed, are of a fair order of merit. Though some are published for the first time, most of the charts, which are somewhat numerous, are original. It was impossible that any one man should handle such a mass of material in an ideal fashion, nevertheless we have in "The Natural History of Digestion" a most comprehensive and valuable work, for which we should be grateful all the more as amid the abounding plethora of publications in periodicals whose names are legion it is well that the results of chief value should be gathered together in book form. The price of the work is very moderate.

W. M.

ELECTRO-HÆMOSTASIS IN OPERATIVE SURGERY. By ALEXANDER J. C. SKENE, M.D., LL.D., Professor of Gynæcology in the Long Island College Hospital, Brooklyn, N.Y., etc., etc.

Professor Skene has for some time been known as an advocate and exponent of hæmostasis by heat obtained by the use of electricity, and this book of 173 pages contains a full and thorough discussion of the arguments in favor of the method and a description of the instruments and appliances by which it is to be used.

In the main, the author contends that there are many instances of the trouble which silk ligatures have caused in the way of abscesses, of the failure of catgut to hold arteries, of the difficulty of complete sterilization of the latter, and of the complete failure of ligatures of any material to completely close mucous tracts such as the Fallopian tube and appendix vermiformis. To the surgeon of long experience, the objections to silk will be admitted to be well grounded. As regards catgut carefully sterilized by the modern chinol or formaline method, few will be prepared to accept them. The patency of mucous tracts after ligature the author proves beyond a doubt, by the results of microscopic examination of specimens made by himself and others.

The appliances consist of a series of pressure forceps and clamps of various kinds and sizes suited to the requirements of ovarian and other pedicles; of the appendix vermiformis; of piles, etc. The source of electricity may be either a battery (the least reliable), or much better, a street electric light or power current modified by a suitable transformer, and measured by an amperemeter, to furnish the requisite degree of heat. The necessary effect is produced by a degree of heat not

exceeding 180° Fahrenheit, so that the tissues compressed by the forceps or clamp shall not be charred, but simply thoroughly dried. Microscopic examination of tissues thus treated shows that they are completely disorganized; no trace of their structure can be recognized.

By this method Dr. Skene has done over two hundred abdominal sections and many vaginal hysterectomies without a single instance of subsequent hæmorrhage, and, he claims, with much better ultimate results than by the ordinary ligature materials. The length of time application of the heat is necessary is not more than from half a minute to two or four minutes, according to the thickness of tissue to be dealt with.

The book is admirably illustrated with half-tone pictures showing the various clamps, forceps, batteries and transformers, and the results on the tissues. It cannot fail, we predict, to produce a profound impression on the surgical world. It will not be out of place here to allude to the unreliability of angiotripsy by the methods of Doyen and Tuffier, of Paris, as shown by the recent reports of cases on the human subject and experiments on lower animals.

Dr. Skene's book is published by the Appletons and is a very creditable production.

THE INTERNATIONAL MEDICAL ANNUAL AND PRACTITIONER'S INDEX. A Work of Reference to Medical Practitioners. 1899. Seventeenth Year. New York: E. B. Treat & Co.

The Annual for 1899 appears in much the same dress and in the same form as in past years. There is an increase of fifty pages in the reading matter. Of the thirty-two contributors, fourteen are new names this year. An effort has been made, as in former editions, to have the most important subjects of the year treated in original contributions by well known authorities thereon. Among others we notice an article on Practical X Ray Work, by Dr. R. Norris Wolfden, which should be of great value to anyone who has not a practical knowledge of electricity and yet desires to make use of this means of diagnosis in office work. "Gleet," by E. Hurry Fenwick, contains directions for the use of the urethroscope and two coloured plates depicting the normal urethra and pathological conditions met with in this disease. Priestly Leech describes some of the newer methods of uniting divided intestine, illustrating Halsted's method by three plates. "Mastoid operations" are fully dealt with in an article by J. Dundas Grant. Kocher's diagrams of the sensory distribution of the spinal nerves are reproduced by coloured plates in Thorburn's article on the "Surgery of the Spinal Cord." Seneca D. Powell, in the article on "Skull Surgery," describes his own method of performing craniectomy and illustrates it with three plates. The "Atlas of Bacteria Pathogenic in the Human Subject," part of which appeared in the Annual for 1898, is completed in the present

volume. The usual report of legal decisions throughout the year is inserted at the back, this being the American edition the cases are those affecting American practitioners.

G. G. C.

REPORT OF MINNESOTA STATE BOARD.

This report deals with the work of the Board during the past two years. During this period the development of the laboratory work under the able direction of Dr. F. F. Westbrook has been most rapid and complete. In addition to the unusually large amount of routine diagnostic work, much valuable scientific research has been accomplished. The existence of a very active veterinary sanitation department in connection with the Board is a special feature which we would like to see adopted by many other health boards. The careful management of the executive work of the Board under Dr. H. M. Bracken, the secretary, as shown by the special report, is evidently of a very high order. Almost the only criticism we have to offer is that the plan followed of combining a number of quarterly reports in one volume, makes rather difficult reading.

W. J.

TRANSACTIONS OF THE PATHOLOGICAL SOCIETY OF PHILADELPHIA. Vol. XVIII. Containing the Reports of the Proceedings of the Society from October, 1895, to June, 1897. Philadelphia. 1898.

No words of ours are necessary to commend the Transactions of this old established Pathological Society, suffice it to say that the volume before us is thoroughly worthy of the reputation of that Society, not merely in its valuable contents, but also in its illustrations and general appearance. It is, if possible, in advance of anything yet published by any pathological society on this continent—the series of volumes, in fact, of this Society are usually available for reference in connection with morbid anatomical conditions, and in this respect run very close to the Transactions of the Pathological Society of London.

J. G. A.

A TEXT-BOOK UPOM PATHOGENIC BACTERIA FOR STUDENTS OF MEDICINE AND PHYSICIANS. By JOSEPH MCFARLAND, M.D. Second Edition. Philadelphia: W. B. Saunders, 1898.

Despite not a few errors, the first edition of McFarland's Pathology was deservedly popular with the medical student on account of its easy and interesting style, its excellent illustrations, and admirable get up. The second edition is a marked improvement upon the first in very many respects. It has grown not a little in the process of revision, and new chapters have been added so as to bring the work well up to date.

J. G. A.

Society Proceedings.

ONTARIO MEDICAL ASSOCIATION.

The nineteenth annual meeting of the above Association was held in the Normal School Building, Toronto, June 13th and 14th, 1899.

The president, Dr. W. J. Gibson, Belleville, occupied the chair.

The following gentlemen were introduced to the Association:—Dr. Wilding, delegate from the New York State Medical Society; Dr. Christian Fenger, Chicago; Dr. Bowditch, Boston; Dr. J. C. Wilson, Philadelphia, and Dr. D. W. Montgomery, Los Angeles, Cal.

A Case of Muscular Dystrophy was presented by Dr. Ingersoll Olmsted, Hamilton, which proved to be an orthodox case of its kind and excited a good deal of interest in the members present.

Relapse in Typhoid Fever. Dr. J. C. Wilson, in reading this highly interesting paper, took as his "working hypothesis" the condition of the gall bladder at the time of the occurrence of the relapse. The cause of the relapse was due to the sudden discharge of the accumulated contents of that cyst, which contained large quantities of the bacilli, into the intestine, thus producing the reinfection and the relapse.

The paper was ably discussed by Drs. McPhedran and Jno. L. Davison.

On the afternoon session being convened, the Hon. G. W. Ross, minister of education, delivered in his usual eloquent style an address of welcome to the Association. He eulogized the medical profession for the assistance it was to the department in maintaining the proper scientific spirit in the country. At some length he dwelt on the subject of tuberculosis and health in the public schools, as also the questions of examinations at too early an age and home lessons, to which he was opposed, as being injurious and harmful. He thought the country must produce men strong in mind and body, men with nerves that will endure the strain of public life.

The President, Dr. Gibson, then delivered the annual presidential address, and in a very practical manner discussed serum therapy, tuberculosis, Dominion registration, over-pressure in public schools and improvements in medical teaching. At its close he was tendered a vote of thanks by the Association.

SYMPOSIUM ON TUBERCULOSIS.

The Sanitarium Treatment of Pulmonary Tuberculosis was very ably presented by Dr. Vincent V. Bowditch, of the Sharon Sanitarium,

Boston. The treatment adopted there consisted in abundance of fresh air, judicious exercise, pulmonary gymnastics and calisthenics. The results achieved at Sharon mean that sanitaria should be near all the large cities and towns.

Dr. N. A. Powell, Toronto, spoke of the earliest diagnosis and selection of cases for sanitarium treatment.

Dr. T. F. MacMahon discussed home treatment and prevention of tuberculosis.

Dr. Charles Sheard, M. H. O., Toronto, took "Care and Prevention" as his text.

Dr. M. I. Beeman, Newburgh, Ont., spoke of more bacteriological work being done by the general practitioner.

Dr. P. H. Bryce, secretary of the Provincial Board of Health, dealt with the establishment of sanitaria from the governmental standpoint.

Dr. McConnell told of three years experience in New Mexico.

Dr. John Hunter, Toronto, thought every patient's chest should be examined, no matter what the disease for which he consulted the physician.

Dr. Wm. Oldright said disinfection should be carried out in all cases after habitation by a consumptive.

Dr. Playter spoke of the use of ozonized air in the treatment.

Dr. Coventry thought *La Grippe* was responsible for laying the foundation of many of these cases.

Dr. Price Brown emphasized the importance of the general practitioner being familiar with the use of the rhinoscope and the laryngoscope.

A strong resolution of sympathy for Dr. J. E. Graham (since deceased) in his present illness was unanimously adopted.

BANQUET. The annual banquet was held in the evening at McConkey's restaurant, the president presiding.

SECOND DAY.

In the surgical section, Dr. Wishart, London, was elected chairman and the following papers were read and discussed.

Inguinal Hernia—Dr. William Oldright.

Treatment of Hernia—Dr. Angus McKay, Ingersoll.

A Peculiar Gynæcological Case—Dr. Harrison, Selkirk, Ont., in which a woman had passed a glass stylet penholder into her womb to induce an abortion. A subsequent exploratory abdominal operation was performed and the stylet was found in the region of the spleen. The woman recovered.

The Seminal Vesicles in Health and Disease—Dr. E. E. King.

A Note on Kocher's Method of Radical Cure of Hernia—Femoral and Inguinal—Dr. Primrose, Toronto.

Fibrinous Rhinitis—Dr. D. J. Gibb Wishart, Toronto.

Electrolysis and Cataphoresis in the Treatment of Inoperable and Recurrent Malignant Disease—Dr. R. K. Frazer, Thamesville, Ont.

On Some Points in the Diagnosis of Eye Affections—Dr. R. A. Reeve, Toronto.

In the medical section, Dr. Russell, Hamilton, was elected chairman, and the following papers were read and discussed :

Ophthalmology and the General Profession—Dr. G. H. Burnham.

The Insanity Plea in Medical Jurisprudence—Dr. J. Russell.

Notes of a Case of Torticollis—Dr. D. C. Meyers, Toronto.

Acute Diabetes—Dr. A. F. McKenzie, Monckton, Ont.

Treatment of Eczema—Dr. Graham Chambers, Toronto.

The Present Status of Ergot in Obstetric Practice—Dr. Kenneth McIlwraith, Toronto.

GENERAL SESSION.

A Case of Coccidial Infection. Dr. D. W. Montgomery, Los Angeles, gave a clear description of this case, which occurred in a young German of twenty-one years, who came to California at three years of age.

DISCUSSION IN SURGERY. Dr. Christian Fenger, Chicago, read an admirable paper on the diseases of the kidney amenable to surgical treatment. He prefaced his remarks with a description, historical, of the origin of the surgery of the kidney and ureter, alluding to the immense amount of literature which had been produced on the subject within the last decade—viz., something like nine hundred papers.

He emphasized the importance of examination of the urine in all cases in operating on the kidney, and said that it was particularly important to estimate the quantity of urea. Then he took up the different diseases of the kidney for which we operate and in a classical manner described each and the indications for and against operation.

ELECTION OF OFFICERS.

President—Dr. J. E. Graham, Toronto.

First Vice-President—Dr. A. H. Wright, Toronto.

Second Vice-President—Dr. M. I. Beeman, Newburgh, Ont.

Third Vice-President—R. J. Trimble, Queenston, Ont.

Fourth Vice-President—A. F. McKenzie, Monckton, Ont.

General Secretary—Harold C. Parsons, Toronto.

Assistant Secretary—E. H. Stafford, Toronto.

Treasurer—George H. Carveth, Toronto.

The special committee appointed at the last meeting re Hospital Abuse brought in a very strong report at the evening session, which was read by Dr. W. J. Wilson, Toronto. This provoked an animated discussion and was unanimously adopted by the Association.

After the reception of other reports the meeting adjourned to again meet in Toronto in 1900.

THE

Montreal Medical Journal.

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

VOL. XXVIII. AUGUST, 1899. No. 8.

ON THE INFECTIOUSNESS OF TYPHOID EXCRETA.

Within a few months following the first full study of the typhoid bacillus by Gaffky, in 1884, numerous observers demonstrated, as they thought, that the typhoid bacilli are recognisable without any great difficulty in the stools of typhoid patients and this at all periods of the disease, and these observers proving, as they seemed to, that the bacilli were thus discharged in great numbers into the fæces, afforded so ready an explanation of the dissemination of the disease that ever since it has been an article of universally accepted belief that the stools are the main agent in the spread of typhoid.

This is but one of the numerous examples which might be given of bacteriological mistakes or half truths being distinctly useful in their time, for now there is little doubt that what these early observers really saw in the stools were colon bacilli—bacteria at that time little known, but presenting a close similarity to the typhoid bacillus in very many respects. When the points of similarity and distinction between these two forms were more fully studied, it was found that, as a matter of fact, it is extremely difficult to isolate typhoid bacilli from the fæces. Walthelet, in 1895, using the most delicate methods of differentiation then known, could only obtain bacilli in the stools of four out of twelve typhoid patients.

That same year Elsner perfected a new medium for the separation of typhoid and colon bacilli, a medium consisting of potato-gelatine, to which 1 per cent. of potassium iodide had been added; this is not perfect, for some varieties of the colon bacillus in their mode of growth upon it are scarce to be distinguished from the B. Typhi; nevertheless, with this medium a great step in advance has been made.

Since then Philip H. Hiss, of New York, has perfected a still more delicate method, under which at no time would it appear possible to confuse the two forms. Unfortunately, extreme care is requisite in the preparation of Hiss's media, and they are by no means likely to come

into general use. But by these two methods of Elsner and Hiss the early deductions reached by false methods have been shown to be in the main correct.

Pollak (Prague, 1896,), Jemma (Genoa, 1897,), Richardson (Boston), and Horton Smith (London), have together examined 40 cases of enteric fever, in all of which they have, if not in every sample examined nevertheless eventually, discovered the bacilli during the first two weeks of the disease. On the other hand, after the first two weeks the bacilli are rarely to be obtained. Horton-Smith* has more especially made a study of this matter and quotes several cases to this effect. Lazarus could only find the bacilli in the stools of three out of sixteen convalescents, Richardson in one out of thirteen.

It would consequently seem evident that, judged by our present methods, the typhoid bacillus is only present in the fæces in considerable numbers in the earlier stages of the disease and is rare in the stools of convalescents. Nevertheless, it must be remembered that even at the present time our methods for the differentiation of the typhoid from the colon bacillus are not perfect and these facts should not in any way lessen the care to be taken in the disinfection of typhoid excreta.

Indeed, certain further observations made from '96 onwards demand that increased care be taken with the excreta in general, for it is possible that the urine may contain enormous quantities of the bacilli. This was suggested long ago, but the first accurate paper upon the subject was one by Horton-Smith in '96. He showed that in some, though not in all, cases of typhoid fever, true typhoid bacilli occur in the urine; that when they occur they are present in considerable numbers, and also that their occurrence is towards the end of the disease, during the third week or later. These results have since been amply confirmed by Richardson, Petruchsky, Blumer and others.

Summing together Richardson, Horton-Smith and Blumer's cases, we find that, of 60 cases observed, positive results were obtained in 15, or, in other words, typhoid bacilli are present in the urine in about 25 per cent. of the cases of this disease, while in about 5 per cent. they are present in such enormous quantities as to render the urine turbid.

There are certain very interesting points in connection with this appearance of the bacilli in the urine. The earliest day on which they have been discovered so far has been the 15th, on the other hand they have been found as late as the 39th day and 10 days after final defervescence; in one case they were noticed during a period of 70 days, far into convalescence, and several patients were actually discharged from St. Bartholomew's still exhibiting the phenomenon. The fact that there may be enormous numbers in the urine and at the same time no bacilli

* The Lancet, May 20th, 1899.

are to be obtained from the blood, would indicate that we have not here to deal with a simple filtration or separation of the bacilli out of the circulation; there must be a proliferation either within the tubules of the kidney or in the urinary passages in general.

This long persistence in the urinary tract of these microorganisms is on a par with their persistence in the gall bladder and in the neighbourhood of joints, weeks and it may be months after the acute attack has completely passed away.

These observations bring us face to face with what, from a public health point of view, is a very serious problem. In the first place it clearly is no longer admissible to take no care with regard to the disinfection of the urine of typhoid patients. Even, if in only a certain proportion of cases this be infectious, the fact that that proportion is a large one makes it imperative that every care be taken to disinfect the total excreta. In the second place we have to recognize that it is in the late stages of the disease that the urine may be infectious and that this infection may continue far into convalescence. In one case Petruchsky found the enormous number of 172,000,000 bacilli in each cubic centimeter of urine. Indeed, as Horton-Smith points out, the wide contamination of extensive sources of water supply is more easily explicable by means of this infected urine than by the fæces.

It would seem almost impossible to lay down strict rules with regard to the disposal of the urine of those who regard themselves in complete health; it is, however, possible for the physician to order that, until the very last day of their confinement as patients, the urine of those suffering from typhoid should be disinfected; beyond this point it is practically impossible to lay down any rule. Happily, there is still another way out of this difficulty. Richardson (Journ. Exper Med., 1899, Vol. 4, p. 1) has proved very clearly that 10 grains of Urotropine administered three times a day, leads to the rapid disappearance of the bacilli from the urine. In one case in St. Bartholomew's, under Dr. Gee and Dr. Andrews, treatment for three days with Salol had no effect, the typhoid bacilli were still present in enormous numbers in the urine; when Urotropine was given as above, at the end of 48 hours the urine became and henceforth remained absolutely sterile.

Thus we may well recommend with Richardson and Horton-Smith that all typhoid patients be given small doses of Urotropine, commencing with the third week of the disease.

CANADIAN MEDICAL ASSOCIATION.

TORONTO MEETING.

The thirty-second annual meeting of the Canadian Medical Association will be held at Toronto on Wednesday, Thursday and Friday, August 30th, 31st and September 1st, 1899.

Through the kindness of the Honorable Minister of Education for Ontario, the building of the Education Department has been placed at the disposal of the Association, and in it the meeting will be held. This building is most centrally situated, as the Church Street cars pass the building, and the Yonge Street line is but one block away.

The programme will be of exceptional interest, and the very important subject of Inter-Provincial Registration will receive full discussion at this meeting.

A number of entertainments have been provided for, including a reception and musicale for members and their friends on the first evening; an afternoon tea at the Royal Canadian Yacht Club on the island, and other entertainments. The Association will be the guests of the city of Toronto on Thursday evening, when members and their friends are invited to attend a smoking concert on board one of the large Niagara steamers during a sail of a couple of hours on Lake Ontario. The pyrotechnic display at Exhibition Park will be witnessed from the deck of the vessel. On Friday afternoon the Association will be entertained by the President and Directors of the Toronto Industrial Exposition at Exhibition Park.

There will be an exhibition of instruments, drugs and physicians' supplies in connection with the meeting.

The Committee of Arrangements is making every possible effort to insure a successful meeting, and trusts that there will be a very large attendance. As the meeting is held during the first week of the Industrial Exposition, railway tickets to Toronto and return may be obtained at reduced rates (single fare throughout Ontario).

It has been found impossible to send a circular concerning the Canadian Medical Association to every practitioner in the Dominion, as the lists of addresses are imperfect. It is particularly requested that any reader of this JOURNAL who has not received a circular, and who takes any interest whatever in the advancement of professional and scientific progress, will send a card to the General Secretary, Dr. F. N. G. Starr, 471 College Street, Toronto, from whom he will receive all information.

PROGRAMME.

The President's Address will be delivered on the afternoon or evening of the first day by Irving H. Cameron.

The address in Surgery will be given by W. B. Coley, of New York.

The address in Medicine by J. T. Fotheringham, of Toronto.

In the Skin Clinic, G. Chambers and A. McPhedran, of Toronto, and A. R. Robinson, of New York, and others will take part.

The following is a partial list of the papers to be read:

"The best method of dealing with the consumptive poor." E. J. Barrick, Toronto.

"Floating kidney simulating disease of the ovaries and tubes." A. Lapthorn Smith, Montreal.

"Observations on adenoids and enlarged tonsils and their removal, with notes of eighty cases in private and hospital practice." D. J. Gibb Wishart, Toronto.

"The methods and ultimate results of operations for halux valgus." N. A. Powell, Toronto.

"Report of a case of abdominal pregnancy." H. Meek, London.

"An experience in formaldehyde disinfection." F. Montizambert, Ottawa.
"An inquiry into the etiology of chronic Bright's disease." A. G. Nicholls, Montreal.
"Operations for extra-uterine gestation." H. H. Chown, Winnipeg.
"Tuberculosis in cattle and its prevention." J. George Adami, Montreal.
"The hospital room in each dwelling." W. J. Telfer, Montreal.
"The treatment of spina bifida." Geo. A. Bingham, Toronto.
"Complications and treatment of fractures of the skull." J. M. Elder, Montreal.
"Recurrent paralysis of the third nerve (Charcot's ophthalmoplegic migraine)." J. W. Stirling, Montreal.
"Tuberculosis and insurance." J. Hunter, Toronto.
"(*a*) Typhoid infection without intestinal lesion; (*b*) Gastroptosis." A. McPhedran, Toronto.
"Some observations on the treatment of cancer." A. R. Robinson, New York.
"Gall-bladder surgery." J. F. W. Ross, Toronto.
"Typhoid epidemics I have met." Wyatt Johnston, Montreal.
"The treatment of cataract." R. A. Reeve, Toronto.
"Christian Science." J. H. Richardson, Toronto.
"Anæsthesia by chloroform and ether." Wm. B. Jones, Rochester.
"Treatment of the acute digestive disorders of infancy." A. R. Gordon, Toronto
"Rhinoliths." Hubert D. Hamilton, Montreal.
"Observations on the relations of the thyroid gland to the uterus." C. R. Dickson, Toronto.
"The question of operation on thyroid tumors." Geo. A. Peters, Toronto.
"A case of malignant disease of the gall-bladder, simulating hydronephrosis (feeding through the gall-bladder for three days)." F. N. G. Starr, Toronto.
"An original method for the direct estimation of proteid digestion in the stomach." A. L. Benedict, Buffalo.
"Nephro-lithotomy." B. L. Riordan, Toronto.
"The mastoid operation in chronic middle ear disease. J. M. MacCallum, Toronto.
"Ringworm in Toronto." Graham Chambers, Toronto.
"The Great Lakes as a health resort." E. H. Adams, Toronto.
"A case of subcutaneous emphysema." Frederick Fenton, Toronto.

Papers have also been promised by G. H. Burnham, Toronto; A. B. MacCallum and J. J. Mackenzie, of Toronto, and a number of others.

During the meeting, T. G. Roddick, of Montreal, will address the Association on the subject of "Dominion Registration."

The Pathological Museum, in charge of a committee, with A. Primrose as chairman, will add much to the interest of the meeting. A great many specimens have been promised, among which are the following:

Lower half of rectum removed for cancer. A. L. Smith, Montreal.
Ectopic pregnancy. H. Meek, London.
Extra uterine gestation, and others. H. H. Chown, Winnipeg.
Rarer forms of aneurism. Hearts. Calculi. Disease and fractures of bone, and others. J. George Adami, Montreal.
Cast of hand from a case of acromegaly. J. M. MacCallum, Toronto.
Congenital atresia of small intestine. W. B. Jones, Rochester.
Eustrongylus gigas in kidney of mink. Formaldehyde preparations. Dry anatomical preparations. F. N. G. Starr, Toronto.
Obstruction of colon by large gall-stone. Superfœtation, abortion at 4th month, 2 sacs 4 months and 6 weeks. Elevated fracture of skull. Heart and aorta. Fusiform dilatation of latter due to syphilitic endarteritis. Carcinoma of prostate with terminal suppurative cystitis. Columnar-celled carcinoma of stomach. Diffuse infiltration from cardiac to pyloric orifices. Solid ovarian tumor (Fibro-Myo-Sarcoma) twelve pounds, etc. W. T. Connell, Kingston.

Lung—Chronic tuberculosis, Acute miliary, Tubercular broncho-pneumonia, etc. *Female Generative Organs*—Adhesions of pelvic organs, Pyosalpinx, Cysts, Tumors, etc. *Bladder Urinary*—Prostatic changes, Sacculation, Calculi, etc. *Bladder Biliary*—Hydrops, Calculi, etc. *Kidney*—Cirrhotic changes, Cysts, Tumors, Hydronephrosis and Pyonephrosis, Calculi, Tuberculosis, Anomalies and faults. *Œsophagus*—Stricture, New growths. *Stomach*—Ulcer simple, Carcinoma. *Intestine*—Adeno-carcinoma, Colitis, Enteritis chronic, Typhoid changes, Tubercular ulcerations. *Appendices*. *Heart*—Anomalies and developmental faults, Pericarditis, Myocarditis, Myomalachia cordis, Endocarditis, Chronic valvular disease, New growths, Dilation and hypertrophy without valve lesion. *Blood Vessels*—Atheroma, Aneurisms, Ectases, Varicose veins. *Liver*—Abscess, Cirrhotic changes, Venous congestion, Amyloid, Syphilis, New growths. W. Goldie, Toronto.

For further particulars address F. N. G. Starr, general secretary, Biological Department, Toronto.

CONVOCATION OF McGILL FACULTY OF MEDICINE.

The total number of students registered in the Faculty of Medicine for the Session 1898-99 was 447, made up as follows :

First Year	134
Second Year	126
Third Year	93
Fourth Year	83
Graduates in attendance	11
	447

PRIZES, HONOURS AND MEDALS.

HOLMES GOLD MEDAL for highest aggregate in all subjects forming the Medical Curriculum, A. H. Gordon, of St. John, N.B.

FINAL PRIZEMAN for highest aggregate in Fourth Year subjects, T. G. McNiece, of Carsonby, Ont,

CLEMESHA PRIZE for Clinical Therapeutics F. J. Nicholson, B.A., of Victoria, B.C.

McGILL MEDICAL SOCIETY SENIOR PRIZES—First Prize, T. G. McNiece ; Second Prize, F. T. Tooke, B.A.

THIRD YEAR PRIZEMAN, E. R. Secord, Brantford, Ont.

SUTHERLAND MEDALLIST, J. W. T. Patton, Ponds, N.S.

SECOND YEAR PRIZEMAN, R. H. Ker, B.A., Montreal.

SENIOR ANATOMY PRIZE. J. Bruce, B.A., Moncton N.B.

McGILL MEDICAL SOCIETY JUNIOR PRIZES—First Prize, C. Shearer ; Second Prize, R. P. Campbell, B.A.

FIRST YEAR PRIZEMAN, R. M. Van Wart, B.A., Fredericton, N.B.

JUNIOR ANATOMY PRIZE, R. M. Van Wart, B.A.

The following gentlemen, 64 in number, have fulfilled all the requirements to entitle them to the degree of M.D., C.M., from the University. In addition to the primary subjects, they have passed a satisfactory examination, both written and oral, on the following subjects : Principles and Practice of Surgery, Theory and Practice of Medicine, Obstetrics and Diseases of Women and Children, Pharmacology and Therapeutics, Medical Jurisprudence, Practical and General Pathology and Hygiene,—and also Clinical Examinations in Medicine, Surgery. Obstetrics, Gynæcology and Ophthalmology, conducted at the bedside in the hospital :

Alley, G. T ..... Charlottetown, P.E.I.
Aylmer, A. L ..... Melbourne.
Bowles, C. T ..... Ottawa, Ont.

Brown, W. F., B.A. ..... Plattsburg, N.Y.
Browning, W. E. ..... Exeter, Ont.
Burnett, W. B., B.A. ..... Sussex, Ont.
Burris, J. S. ..... Halifax, N.S.
Cameron, L. G. ..... Cascades, Que.
Casselman, P. C. ..... Morrisburg, Ont.
Craig, J. E. ..... North Gower, Ont.
Cumming, W. A. ..... Buckingham, Que.
Darche, C. E. ..... Danville, Que.
Drier, N. E. ..... Woodstock, N.B.
Dyer, E. O., B.A. ..... Sutton, Que.
Fawcett, R. F. M. ..... Jamaica, W.I.I.
Fitzgerald, C. T. ..... Harbor Breton, Nfld.
Francis, B. ..... Sydney Mines, N.S.
Fuller, G. F. LeR. ..... Sweetsburg, Que.
Galbraith, W. S. ..... Lethbridge, N.W.T.
Gillis, E. G. ..... Indian River, P.E.I.
Gordon, A. H. ..... St. John, N.B.
Gray, C. F. A. ..... Montreal, Que.
Greene, E. ..... Leitrim, Ont.
Higgins, C. P. ..... Victoria, B.C.
Jackson, F. S. ..... Westmount, Que.
Jones, F. B. ..... Montreal, Que.
Jones, D. C. ..... Maitland, Ont.
Law, R. ..... Ottawa, Ont.
Levy, A., B.A. ..... Montreal, Que.
Lineham, D. M. ..... Calgary, N.W.T.
Loeb, A. A. ..... Montreal, Que.
Logie, A. E. ..... Chatham, N.B.
Love, R. H. ..... Carleton Place, Ont.
Macdonald, J. S. ..... Montreal, Que.
Mackenzie, C. A. ..... Toronto, Ont.
McCombe, J. ..... Dublin, Ireland.
McKay, J. G. ..... Morewood, Ont.
McIntyre, J. D. ..... Clifton, P.E.I.
McKechnie, W. C. ..... Marquette, Man.
McNally, D. A. ..... Abram's Village, P.E.I.
McNaughton, F. M. A., B.A. ..... Huntingdon, Que.
McNiece, T. G. ..... Carsonby, Ont.
Morris, T. E. ..... St. John, N.B.
Murphy, E. F. ..... St. John, N.B.
Nash, A. C. ..... Ogdensburg, N.Y.
Nicholson, F. J., B.A. ..... Victoria, B.C.
O'Brien, J. R., B.A. ..... Ottawa, Ont.
Peppers, H. W., B.A. ..... Fredericton, N.B.
Phelps, S. E. ..... Steuben, Me., U.S.A.
Rajotte, E. C. F. ..... Montreal, Que.
Ross, S. A. ..... Hintonburg, Ont.
Rutherford, R. M. ..... Hawkesbury, Ont.
Ryan, G. H. W. ..... Montreal, Que.
Scott, J. F. ..... Montreal, Que.
Shore, R. A. A., B.A. ..... Toronto, Ont.
Sutherland, W. H. ..... Sea View, P.E.I.
Thompson, G. H. ..... North Sydney, N.S.
Tooke, F. T., B.A. ..... Montreal, Que.
Trites, C. B. ..... Petitcodiac, N.B.
Turnbull, T. ..... Stratford, Ont.

Whillans, H. A.....Nepean, Ont.
Wilkins, W. A.....Montreal, Que.
Witherbee, W. D.....Postdam, N.Y.
Woodley, J. W.....Rockland, Ont.

The following students, sixty-nine in number, have passed in all the subjects of the Third Year, viz.: Pathology, Pharmacology and Therapeutics, Hygiene and Bacteriology, Medical Jurisprudence, Mental Diseases, Medicine, Surgery and Clinical Chemistry.

Armstrong, J. W., B.A.
Aylmer. A. L.
Baird, J. A.
Ballantyne, C. T.
Bishop, T. E.
Brennan, F. A.
Brown, E. L.
Burnett, P.
Burris, J. S.
Carnwath, J. E. M.
Cartwright, C.
Charlton, G. A.
Chisholm, J.
Clemesha, W. F.
Coates, H. W.
Collin, J. D.
Conroy, R. J.
Cook, C. R.
Cowperthwaite, W. M.
Cox, J. R.
Crozier, J. A., B.A.
Donnelly, A. J., B.A.
Doull, A. E.
Eagar, W. H.
Freeman, C. H., B.A.
Gibson, E. J.
Gilday, A. L. C., B.A.
Gray, H. R. D., B.A.
Hall, A. R.
Haszard, C. F. L.
Henry, C. K. P.
Hobert, G.
Hill, W. H. P.
Jardine, J.
Johnston, A.
Law, R.
Loeb, A. A.
Macdonald, J. S.
McConnell, R. E., B.A.
McDonald, W. F.
McKee, S. H., B.A.
McNally, D. A.
Martin, L. W.
Morris, T. E.
Morrison, A. S.
Morrison, G. D.
Murray, L. M.
Mussen, A. T.
Paintin, A. C.
Paterson, W. F., B.A.
Pattee, E. J.
Patton, J. W. T.
Pope, E. L., B.A.
Porter, A. S.
Rajotte, R. C. F.
Richard, F. A., B.A.
Robb, G. W. A.
Ross, H., B.A.
Ross, W. J.
Rowley, W. E., B.A.
Rutherford, A. E.
Secord, E. R.
Snyder, A. E. W.
Stevenson, R. H.
Todd, J. L., B.A.
Turnbull, J. A.
Turner, W. G., B.A.
Wilson, W. A.
Wood, D. F.

The following gentlemen, 99 in number, have completed their Second Year examinations, which comprise the following subjects: Anatomy, Practical Anatomy, Chemistry, Practical Chemistry, Physiology, Practical Physiology and Materia Medica:

Baird, J. A.
Beadle, W. D.
Belanger, E. R.
Bradley, J. H.
Browne, J. G., B.A.
Bruce, J., B.A.
Buffett, C., B.A.
Butler, P. E., B.A.
Callbeck, A. De S. B.
Campbell, A.
Campbell, R. P., B.A.
Campbell, O. E.
Carlyle, D. A.
Cartwright, C.
Chisholm, J.
Clemesha, W. F.
Collison, H. McN.
Collison, J.
Conroy, R. J.
Costello, A. R.
Darche, C. E.
Dixon, W. E.
Donaldson, A. S.
Duncan, J. W.
Egan, W. J.
Ellis, R. L.
Fleming, J, E.
Freeman, C. H.
Fuller, A. T., B.A.
Fuller, G. F. L.
George, J. D.
Goodall, J. R.
Harley, R. O.
Hazard, E. F. L.
Hope, J. T.
Howard, A. C. P., B.A.
Hunter, E. N. McL.
Jackson, G. F.
Johnson, R. deL.
Johnston, J. L.
Jones, H. A., B.A.
Kannary, E. L., B.A.
Kendall, A. L.
Ker, R. B., B.A.
Leggett, T. H.
Little, H. M., B.A.
Lunney, T. H.
MacCarthy, F. H.
Mackay, M., B.A.
Mackenzie, S. D.
McDiarmid, W. B.
McKay, D. S.
McKay, J. G.
Martin, E. A.

Meighen, W. A.
Miller, G. H. S.
Morris, T. E.
Mousseau, E. A.
Mullaly, E. J.
Newcombe, W. E.
O'Sullivan, M. T.
Patterson, A., B.A.
Payne, R. H.
Penner, E.
Redon, L. H., B.A.
Richards, B. A.
Robb, G. W. A.
Roberts, J.
Robertson, C. G.
Robertson, L. F.
Robertson, R. D.
Robidoux, E. L.
Rogers, H. B.
Russel, C. K., B.A.
Russell, E. M., B.A.
Rutherford, C. A.
Rutherford, A. E.
Sanders, C. W.
Sayre, T. D.
Shearer, C.
Shearer, R. L.
Simpson, E. G. W., B.A.
Simpson, S.
Snyder, A. E. W.
Stentaford, G. L.
Stevenson, J,, B.A.
Stewart, C. J.
Symmes, C. R.
Taylor, W. L.
Todd, J. L., B.A.
Townsend, C.
Ward, J. A.
White, E. H.
Wiley, E. E.
Williams, W.
Wilson, J. J.
Winter, D. E.
Wood, D. F.
Wyman, H. B., B.A.

The following students, 88 in number, have passed the examinations in all the subjects of the First Year, viz, : Anatomy, Chemistry and Physics, Physiology, Histology, Biology and Practical Chemistry :

Ames, A. C.
Anton, D. L.
Bayfield, T. F.
Beatty, H. W.
Bishop, L. C.
Blair, H. G. F.
Blakeman, F. W.
Boyd, R. M.
Byers, R. J.
Campbell, J. A. E., B.A.
Cantlie, T. P. L.
Carnochan, W. L. C.
Christie, J. F.
Codrington, R. F.
Colby, J. C., B.A.
Coleman, C. E.
Crang, F. W.
Cullen, W. H.
Dixon, J. D.
Dorion, W. A.
Douglas, F. C.
Dowson, C. K.
Doyle, A. J., B.A.
Duncan, J. W.
Eastman, E. B.
Evans, S.
Fearn, C. J.
Ferguson, W. H.
Folkins, H. G.
Ford, W. S.
Fuller, H. T.
Gardner, W. A., B.A.
Giles, G. N.
Green, F. W.
Halliday, J. L.
Harley, R. O.
Harris, L. C.
Henry, C. M.
Hopkins, C. W.
Irwin, F.
Johnson, J. A., B.A.
Jones, N. C.
Lawlor, F. E.
Learmonth, G. E.
Leney, J. M., B.A.
Macdonald, A. A., B.A.
Mackinnon, G. E. L.
Maclaren, A. H., B.A.
MacNaughton, J. A.
McGibbon, D.
McGrath, R. H.
McKee, W. E.
McNeill, J. F.
McNeill, J. W.
Manchester, J. W.
Mason, P. C.
Mason, L. D., B.A.
Menzies, J. E.
Moffatt, G.
Moore, J. C., D.V.S.
Morrison, J. F.
Morse, W. R., B.A.
Mothersill, G. S.
Netten, P. E.
Niven, K. S.
Paterson, R. C., B.A.
Peters, O. R.
Pickard, L. N.
Pratt, C. M.
Ritchie, C. F.
Robertson, J. J.
Russell, E. M., B.A.
Ryan, W. T., B.A.
Shaw, D. LeB.
Shearer, R.
Simpson, J. C.
Smith, T. W.
Stockwell, H. K.
Stowell, F. E.
Thomas, J. W., B.A.
Taylor, D. A.
Tolmie, J. A.
Townsley, R. H.
Van Wart, R. M., B.A.
Walker, H.
Wiggin, W. I.
Williams, F. T.
Williams, R. G.

LAWSON TAIT, F.R.C.S. Eng. and Edin.

Obituary

LAWSON TAIT, F.R.C.S., Eng. and Edin.

By the death of Mr. Tait at the early age of 54, a great name in surgery has passed away. Born in Edinburgh, where he received his ordinary and professional education, he, however, did not take his degree at the university, but qualified at the Royal College of Physicians and Surgeons of England. He some years later acquired the Fellowship of the Royal College of Surgeons of England. He was a pupil and later became an assistant to Sir James Simpson, for whom he had a great admiration. Mr. Tait's earliest opportunities showed him to be a man of marked originality, ability and force of character in all he said, wrote or did. His leanings to surgery were early apparent, and especially to the surgery of the diseases peculiar to women, to which, however, he by no means exclusively confined himself. He did his first ovariotomy at 23, and of his first fifty cases nineteen died, and we are told by Mr. Christopher Martin, his pupil, assistant, partner and hospital colleague, that at this time he was operating under the carbolic acid spray and full antiseptic precautions. This was in 1878, when full antiseptic precautions were not what they are to-day. He subsequently reported 139 successive ovariotomies without a death, and his ultimate vast experience was evidenced in a paper entitled "A General Summary of Conclusions from Four Thousand Cases of Abdominal Section," published in 1894.

Mr. Tait's greatest merits as a surgeon were boldness and originality, fertility of resource and almost incredible rapidity in operating. To whomsoever may belong the credit of absolute priority, to Tait, undoubtedly, belongs the merit of popularizing such procedures as the operation for ectopic gestation, for the removal of gall stones from the gall bladder and liver, the removal of diseased ovaries and Fallopian tubes and the removal of the uterine appendages in uterine myoma, besides numerous minor procedures in gynæcology.

To fully understand the immense force of Mr. Tait's personality one must have known him intimately and seen him at work—one of the greatest and most memorable privileges of the writer of this notice by whom it was enjoyed in 1886. Mr. Tait was in the zenith of his fame and reputation in the eighties, and then it was the ambition of every aspirant to the practice of gynæcology to make a pilgrimage to Birmingham, where for many years Mr. Tait lived and worked. So num-

erous were his visitors that he ultimately found it necessary to restrict them to a very great extent.

Doubtless, many of our readers will remember Mr. Tait's visit to America on the occasion of the Montreal meeting of the British Science Association in 1884. The annual meeting of the Canadian Medical Association had been arranged for that date. Before this meeting Mr. Tait delivered an address on abdominal surgery, which excited much attention and was published in this Journal. Numerous invitations poured in on Mr. Tait to visit other Canadian and American cities and to operate. A number of these he was able to accept.

Mr. Tait was a genius and he was not free from the faults common to genius. Under a brusque exterior and with unconventional methods and manners, he had a large and kindly heart, but he was rarely other than engaged in controversies; he was a stout fighter and a hard hitter and consequently made many enemies. His letters were so characteristic that, once acquainted with their style, no signature was necessary to recognize them. Such a letter appeared in the number of the British Medical Journal immediately preceding that which announced his death.

Mr. Tait's energy and activity were too great to be confined to the work of his profession—he took a very active part in the municipal affairs of Birmingham and for ten years was a member of the City Council. In 1886 he was the unsuccessful candidate for the parliamentary representation of the Bordesley Division of Birmingham in the Radical and Home Rule interest. The writer, who was in Birmingham shortly after the contest, well remembers the regret of his friends at the issue of the contest. In the words of Mr. Labouchère, of London *Truth*, "he would have been a most valuable addition to the House of Commons."

Mr. Tait died suddenly of uræmia on the 13th of June, 1899, at Llandudno, in Wales, but it was early in 1893 that he first began to suffer from symptoms of chronic nephritis.

SIR WILLIAM ROBERTS.

There are many physicians who have made for themselves a greater name and popular reputation than Sir William Roberts, but there have been few brighter spirits, few who by their life work have done so much to advance the credit of English medical research, very few in whom race, training and natural ability combined to produce so interesting and refreshing a personality.

For, in the first place, he was of Welsh Wales, and of the most intensely Welsh part of Wales, to wit, of Anglesea, where Cymric is still the universal medium of communication between all classes, so much

so that the unfortunate "Sassenach," if he strays beyond Holyhead or Bangor, finds himself as much an Angle at sea as is the island itself. And throughout life Roberts bore himself as a Welshman of the best type. He was one of the small-built, black-haired Welshmen, alert and genial, with that accent and intonation of the English language that bewrayeth, and that simple humour which, as Shakespeare taught us by the mouth of Fluellen, is very far from denoting the simpleton. Not that Sir William would compel his antagonist to eat the leek: indeed, in this he departed from type. He was neither fiery nor litigious; on the contrary, was of so gentle a nature as to be peculiarly averse to picking a quarrel or hurting the feelings of any living man, present or absent. Yet, if one, listening to his ordinary social talk, were inclined to judge that talk childish in its playfulness, he would be brought up sharp against some shrewd sally or rejoinder, so full of knowledge and so rich in thought that of a sudden one's estimation of the man underwent an entire change.

His learning, further, was somewhat distinctive. The ordinary public school of his boyhood was strictly orthodox and under the sway of the Church of England. Thus, as the son of well-to-do Welsh, and therefore Calvinistic, parents, he was sent to Mill Hill in Hertfordshire, then recently established by the Congregationalists upon an undenominational basis, and thence, for his medical studies, he passed naturally to University College, which yet more fully represented the attempt to remove education from the domination of any one sect. The very liberalism which led to the foundation of these two institutions led, especially in the early years of their existence, to a renascent keenness in the spirit and methods of their teaching staffs, and of this young Roberts reaped the full benefit. It is not a little instructive to note how many of the leading English physicians and surgeons of the close of this century have been old University College men, pupils of Sharpey, Quain, Walshe, Jenner, and Erichsen.

That he was a brilliant student is shown by the fact that in his undergraduate career he obtained the highest honours in Chemistry and Physiology for the B.A. degree of the University of London, the medal and exhibition in Chemistry for the first M.B. examination, and later, the gold medals in Physiology, Comparative Anatomy, and Medicine, of that university. Gaining his M. B. degree in 1853, he studied for some months in France and Germany—a somewhat unusual course for an English physician of those days. As a sequel was his intimate and unusual acquaintance with continental medical literature.

This very course, excellent as it was and explaining as it does his later successes, told on him both favorably and unfavorably. Just

as his training was distinctive, so his modes of work and thought throughout life remained independent. It may be that the provincial physician, like the colonial, labours under singular difficulties in making his work known and appreciated at headquarters and thence reflexly throughout the length and breadth of the empire, but something is due to Roberts' voluntary independence and isolation that his sound and valuable researches did not more rapidly become integral parts of current medical knowledge. During the greater part of his career, he cared little about making himself and his results known among his confrères at society meetings in London and elsewhere, or in the medical press. So, also, though for close on thirty years he was an active teacher, I do not think that the ordinary student appealed to him or gained the fullest benefit from his lectures and clinics, which, rather, were to be appreciated—and were appreciated—by the best men of each year. As a consultant, however, he had always that to say or to advise which was apt and valuable, and so expressed as to linger long in the memory.

In 1854, he was appointed house-surgeon to the Manchester Royal Infirmary, and so remarkable an impression did he immediately make, that the following year, when he was but twenty-five years old, he, a comparative stranger, was elected without opposition a full physician on the staff—a circumstance almost unique in the history of so large an English hospital. That same year he was appointed lecturer on anatomy and physiology in the School of Medicine, and from 1855 to 1889 he remained in intimate connection with these two institutions, becoming eventually senior physician to the one and professor of medicine in the other. Other appointments he did not seek; nor, indeed, did he actively seek private practice: it came to him. His first ten years in Manchester were spent very largely in the hospital wards and in his laboratory, but the results of his long period of strenuous study and research led to his being surely recognized in the middle of the "sixties" as the leading physician in the North of England, a position which he retained for twenty years or more, Clifford Allbutt, in Leeds, being his only serious rival. But even when most fully engaged as a consultant, with much of his time spent in the train rushing here and there within a radius of one hundred miles of Manchester, his chiefest interest and his main source of relaxation lay in his laboratory.

In the middle of the century, laboratories of physiological and pathological chemistry were unknown in connection with British medical schools, and, the trend of Roberts' investigations being chemical, he was forced to establish his laboratory at his own house, nor when, later, the ample laboratory accommodation at the Owens College was at his disposal, would he take advantage of it. Thus his long series of studies upon the digestive ferments and artificial foods, upon uric

acid and the urates, gravel and gout, were made in his own house during the course of a singularly active professional life; and, what is more, each laborious step in the preparation, weighing, and measuring of his material, was performed by himself, unaided by any assistant. "Far and few" are the men possessing the energy and tenacity to establish such a record. There is, it is true, a rising young New York physician, known to many in Montreal, who, upon the topmost storey of one of the Madison Avenue palaces, keeps and feeds and ultimately analyses a select herd of swine. Sir William Roberts' little den was of an earlier age and could not compare with the New York installation; if I mistake not the largest animals ever kept there were oysters.* That New York physician promises, by the present importance of his researches, to be a second Sir William Roberts, nay, it may be a greater than he, but, granting this case, it still remains wonderfully rare to find the busy and popular consultant making time to prosecute, single-handed, subtle researches in organic chemistry.

As for the published work of Sir William Roberts, a few words must here be said. That by which he made his mark was his well-known *Practical Treatise upon Urinary and Renal Diseases,* of which at least four editions have been published since 1865. This was, and, I think, remains, the most original and most thorough discussion of the subject in our language. To Roberts we owe the simple and curiously accurate yeast fermentation test for diabetic urine, as well as the basis of our knowledge of the action of solvents upon urinary calculi, together with observations upon the ultimate relationship of uric acid, the urates, and the quadriurates, or, more exactly, between the forms in which uric acid presents itself in the blood, the urine and the tissues,† observations as valuable as they are minute and painstaking, which are of elementary importance for the comprehension of both gravel and gout. This most valuable series of studies is little recognized by continental workers—a state of affairs for which, as already hinted, Roberts' isolation as a worker must, I think, be held in part responsible. To him also we owe the knowledge that the suppression of urine, as seen in calculous anuria, induces symptoms distinct from the uræmia of Bright's disease, knowledge based upon a series of observations and amply confirmed during the last few months only by the studies of Herter and Sydney Martin. As the leading authority upon renal disease he contributed important articles to the successive systems of Reynolds, Quain and Allbutt.

* This, in the course of his studies upon foodstuffs, in which he proved that oysters—live oysters—are the most digestible of food in that, their liver or gastric ferments continuing active in the human stomach, they accommodatingly digest themselves. Thus, gastronomically speaking, it is a crime to cook the oyster.

† Croonian Lectures, 1892.

Next to the urinary system and the disturbances therewith connected, the digestive system claimed his attention. He was a pioneer in the study of the digestive ferments from the point of view of the physician and of the value of artificially digested foods; he called attention more especially to tryptic fermentation and the activity of the pancreatic secretion.* In 1891, he collected and placed in consecutive form his long series of papers dealing with *Digestion and Diet.*

Elected a Fellow of the Royal Society in 1877, in 1885 he (and his work) obtained the well-merited recognition of Knighthood, and in 1889, wishing to escape the burden of his large consulting practice, he settled in London that he might devote himself in a more leisurely and thorough manner to research. "Single-minded and free from all jealousies and small ambitions," his geniality and quaint humour soon made him a great addition to London medical society. Until they knew him, it was with bated breath that the staid metropolitan physicians saw him chaff the President of the Royal College of Physicians or other head of the profession, then, finding that no evil was meant and none ensued, they went on their way refreshed. One nearer to us in Montreal, himself also of the small-built, dark-haired, Celtic type, is surely now creating in London a similar impression and great popularity.

Thus busied with new interests in London, the continuance of old investigations in his laboratory, and the development (during his yearly holiday) of his country seat in Wales, Sir William Roberts' life during its last ten years would have been ideal had it not been saddened by the sudden death of an only son, then an undergraduate at Oxford, a blow from which he never wholly recovered. Very wisely, he accepted at this period a position as member of the Opium Commission, for in India he found that total change of scene and of surroundings that were then all important. In the autumn of 1898 symptoms of serious ill-health manifested themselves, and, progressing, led to his death on April 16th at the age of sixty-nine. He was buried at Llanymawddwy, Merionethshire.

J. G. Adami.

* Lumleian Lectures, 1880.

CANADIAN ADDENDUM TO THE BRITISH PHARMACOPEIA.

On the invitation of Dr. Atfield, of London, England, the Montreal Medico-Chirurgical Society, has taken the initiative, and with the co-operation of the following, has drafted the attached lists: Dr. A. D. Blackader, Professor of Pharmacology, McGill University; Dr, Robert Wilsen, Professor of Pharmacology, Bishop's College; Dr. H. Hervieux, Professor of Pharmacology, Laval University; Prof. J. E. Morrison, Past President, American Pharm. Association; Mr. R. W. Williams, President Quebec Pharmaceutical Association; Mr. W. H. Chapman, President Montreal College of Pharmacy.

Using this as a foundation, the Medical Colleges, the Colleges of Physicians and Surgeons, and the Pharmaceutical Associations and Colleges throughout the Dominion are requested to contribute additions and amendments.

A very short notice was given, and the completed addendum must be in London within a short time.

ELIXIR SIMPLEX.

(Simple Elixir.)

Tincture of Orange	2 ozs.	100 ccs.
Tincture of Lemon	½ "	25 "
Orange Flower Water	2 "	100 "
Alcohol (90 per cent.)	3 "	150 "
Syrup	8 "	400 "
Kaolin, Water	Of each a sufficient quantity.	

Mix the Tincture of Orange, Tincture of Lemon, Orange Flower Water, Alcohol, Syrup and four fluid ounces (or two hundred cubic centimetres) of water with two ounces of Kaolin; set aside for twenty-four hours; filter; wash the filter with sufficient water to make twenty fluid ounces (or one thousand cubic centimetres) of Simple Elixir.

NOTE—In response to a demand for simple diluent; not too sweet or heavy.

EMULSUM OLEI MORRHUÆ.

(Emulsion of Cod Liver Oil..)

Cod Liver Oil	8 ozs.	500 ccs.
Gum Acacia (in powder)	2 "	125 grammes.
Syrup	1 "	62½ ccs.
Oil of Bitter Almonds	2 m.	5 m.
Water	a sufficient quantity.	

Triturate the Cod Liver Oil and Gum Acacia together; add five ounces (or three hundred and thirteen cubic centimetres) of water, and stir briskly; when the emulsion is formed add the Oil of Bitter Almonds, the syrup and sufficient water to make sixteen fluid ounces (or one thousand cubic centimetres).

NOTE—For the administration of Cod Liver Oil, or as a basis for combination with the hyphosphites, creasote, quinine, etc.

EXTRACTUM APOCYNI LIQUIDUM.

(Liquid Extract of Apocynum.)

Apocynum (in No. 60 powder).	20 ozs.	1000 grammes.
Glycerine.....	2 "	100 ccs.
Alcohol (90 per cent.).....	a sufficient quantity.	

Moisten the powdered Apocynum with about eight ounces (or four hundred cubic centimetres) of the alcohol ; pack the moistened powder in a percolator, and add sufficient alcohol to saturate it thoroughly ; when the liquid begins to drop, close the lower orifice of the percolator ; set aside for forty-eight hours ; then allow percolation to proceed gradually, adding alcohol until the Apocynum is exhausted ; reserve the first seventeen fluid ounces (or eight hundred and fifty cubic centimetres) of the percolate ; remove the alcohol from the remainder by distillation ; evaporate the residue to a soft extract ; dissolve this in the reserved portion ; add sufficient alcohol to produce twenty fluid ounces (or one thousand cubic centimetres) of the Liquid Extract.

Dose—2 to 5 minims.

NOTE—Valuable diuretic and cardiac stimulant. Occasionally used. Of less importance.

EXTRACTUM BUCHU LIQUIDUM.

(Liquid Extract of Buchu.)

Buchu Leaves (in No. 40 Powder)	20 ozs.	1000 grammes.
Alcohol (90 per cent).....	a sufficient quantity.	

Moisten the powdered Buchu Leaves with about eight ounces (or four hundred cubic centimetres) of the alcohol ; pack the moistened powder in a percolator, and add sufficient alcohol to saturate it thoroughly ; when the liquid begins to drop, close the lower orifices of the percolator ; set aside for forty-eight hours ; then allow percolation to proceed, gradually adding alcohol until the Buchu Leaves are exhausted ; reserve the first seventeen fluid ounces (or eight hundred and fifty cubic centimetres) of the percolate ; remove the alcohol from the remainder by distillation ; evaporate the residue to a soft extract ; dissolve this in the reserved portion ; add sufficient alcohol to produce twenty fluid ounces (or one thousand cubic centimetres) of the Liquid Extract.

NOTE—The tincture is hardly ever used as it contains too much alcohol.

EXTRACTUM GRINDELIA LIQUIDUM.

(Liquid Extract of Grindelia.)

Grindelia (in No. 40 powder)...	20 ozs.	1000 grammes.
Alcohol (90 per cent).....	a sufficient quantity.	

Prepared the same as Buchu.

EXTRACTUM HYSOCYAMI LIQUIDUM.

(Liquid Extract of Henbane.)

Henbane Leaves (in No. 40 powder)	20 ozs.	1000 grammes.
Alcohol (60 per cent)	a sufficient quantity.	

Same as Buchu.

NOTE—More reliable than the succus as obtained in Canada, and contains less alcohol than the tincture.

EXTRACTUM PRUNI VIRGINIANÆ LIQUIDUM.

(Liquid Extract of Wild Cherry.)

Wild Cherry Bark (in No. 40 powder).	20 ozs.	1000 grammes.
Glycerine	2 "	100 ccs.
Alcohol (45 per cent.)	A sufficient quantity.	

Mix the Glycerine with six ounces (or three hundred cubic centimetres) of the alcohol; moisten the Wild Cherry Bark with the mixture, and allow to macerate in a tightly closed vessel for forty-eight hours; pack the moistened powder in a percolator and sufficient menstruum to saturate it thoroughly; when the liquid begins to drop, close the lower orifice of the percolator; set aside for twenty-four hours; then allow percolation to proceed, gradually adding menstruum until the Wild Cherry Bark is exhausted; reserve the first eighteen ounces (or nine hundred cubic centimetres) of the percolate; remove the alcohol from the remainder by distillation: evaporate the residue to a soft extract; dissolve this in the reserved portion; add sufficient menstruum to produce twenty fluid ounces (or one thousand cubic centimetres) of the Liquid Extract.

Dose.—30 to 60 minims.

NOTE—Much more serviceable than the tincture.

EXTRACTUM TRITICI LIQUIDUM.

(Liquid Extract of Couch Grass.)

Couch Grass (cut small).	20 ozs.	1000 grammes.
Boiling Water	A sufficient quantity.	
Alcohol (90 per cent)	5 ozs.	250 ccs.

Digest the Couch Grass with one hundred ounces (or five litres) of boiling water for six hours; strain; repeat the operation twice; mix the infusions and evaporate to fifteen ounces (or eight hundred cubic centimetres): add the alcohol; let stand twenty-four hours and filter.

Dose.—1 to 2 drachms.

NOTE.—Very often used. All the principles are in solution.

EXTRACTUM GRINDELIA LIQUIDUM.

(Liquid Extract of Grindelia.)

Grindelia in No. 40 powder.	20 ozs.	1000 grammes.
Sodium Carbonate	2 "	100 "
Water	10 "	500 "
Alcohol (80 per cent.)	A sufficient quantity.	

Moisten the Grindelia with eight ounces (or four hundred cubic centimetres); macerate in a closed vessel for twenty-four hours; pack the moistened powder in a percolator, and add sufficient menstruum to saturate it thoroughly; when the liquid begins to drop, close the lower orifice of the percolator: set aside for twenty-four hours; then allow percolation to proceed gradually, adding menstruum till the Grindelia is exhausted. Recover the alcohol by distillation, and dissolve the residue in the water containing the Sodium Bicarbonate, and after effervescence ceases add sufficient alcohol to make twenty ounces (or one thousand cubic centimetres) of Liquid Extract.

Dose.—10 to 20 minims.

NOTE.—Frequently used. Made according to this formula it is missible with water without precipitation of resins. All the active principles are present.

EXTRACT SENEGÆ LIQUIDUM.

(Liquid Extract of Senega.)

Senega (in No. 40 powder).	20 ozs.	1000 grammes.
Solution of Soda.....	2 "	100 ccs.
Alcohol (70 per cent.).....	A sufficient quantity.	

Moisten the powdered Senega with the Solution of Soda and six ounces of alcohol ; pack the moistened powder in a percolator, etc., the same as for Buchu.

Dose.—5 to 20 minims.

NOTE.—Is in great demand. Requires to be thus made with a non-volatile alkali to prevent gelatinous change.

EXTRACTUM SANGUINARIÆ LIQUIDUM.

(Liquid Extract of Blood Root.)

Blood Root in No. 60 powder...	20 ozs.	1000 grammes.
Glycerine	1 "	50 ccs.
Acid Acetic.....	½ "	25 "
Alcohol (80 per cent).....	A sufficient quantity.	

Mix the Glycerine and Acetic Acid with eight ounces (or four hundred cubic centimetres) of alcohol. Moisten the Blood Root with the mixture ; pack the moistened powder in a percolator ; and proceed as with Buchu.

Dose.—3 to 10 minims.

NOTE—Less important.

EXTRACTUM VIBURNI OPULI LIQUIDUM.

(Liquid Extract of Cramp Bark.)

Cramp Bark (in No. 60 Powder)..	20 ozs.	1000 grammes.
Alcohol (70 per cent).....	A sufficient quantity.	

Same as Buchu.

Dose.—1 to 2 drachms.

NOTE.—Less important.

EXTRACTUM VIBURNI PRUNIFOLI LIQUIDUM.

(Liquid Extract of Black Haw.)

Black Haw (in No. 60 powder).	20 ozs.	1000 grammes.
Alcohol (70 per cent.)....	A sufficient quantity.	

Same as Buchu.

Dose.—1 to 2 drachms.

NOTE.—Valuable and much in use.

LIQUOR THYMOLIS COMPOSITUM.

Compound Solution of Thymol)

Benzoic Acid.....	10 grammes.
Boric Acid.....	20 "
Borax	10 "
Thymol.....	2 "
Eucalyptol	10 drops.
Oil of Wintergreen.....	10 "
Oil of Peppermint.....	6 "
Glycerine.....	100 ccs.
Alcohol (90 per cent).....	300 "
Water..... ..	A sufficient quantity.

Dissolve the Thymol, Oil of Wintergreen and Oil of Peppermint in the Alcohol; dissolve the Benzoic Acid, Boric Acid and Borax in twelve ounces (or six hundred cubic centimetres) of water; add the Glycerine; mix the two solutions; set aside for twenty-four hours; filter through Kaolin, and add sufficient water to make twenty fluid ounces (or one thousand cubic centimetres).

NOTE.—Similar proprietary preparations are in constant demand.

OLEUM GAULTHERIA.

(Oil of Wintergreen.)

The oil distilled from the leaves of Gaultheria procumbens.

CHARACTERS AND TESTS.—Colorless or slightly yellowish tint. Specific gravity 1.180 to 1.187. It should rotate the plane of a ray of polarized light not less than 0.25° to the left in a tube 100 millimetres long (Powers & Kleber).

NOTE.—A favorite aromatic oil in Canada.

SYRUPUS ACIDI HYDRIODICI (2 p.c.)

(Syrup of Acid Hydriodic.)

Potassium Iodide.....	236.25 grains.	27 grammes.
Tartaric Acid.....	223 "	25.5 "
Calcium Hypophosphite	17½ "	2 "
Water.....	525 minims.	60 ccs.
Alcohol (45 per cent)....	440 "	50 "
Syrup to make....		1000 ccs.

Dissolve the Potassium Iodide and Calcium Hypophosphite and the Tartaric Acid in 440 minims (or fifty cubic centimetres) of alcohol; mix the solutions; shake well and set aside in ice water for half an hour; then filter through a small filter, washing the filter with Alcohol (45 per cent,) till the filtrate amounts to two ounces (or one hundred cubic centimetres). Mix this solution with sufficient syrup to produce twenty fluid ounces (or one thousand cubic centimetres.)

NOTE.—Official in U. S. P. (1 per cent.), but 2 per cent. is frequently demanded, and therefore meets all requirements.

SYRUPUS FERRI PHOSPHATIS COMPOSITUS.

(Compound Syrup of Ferrous Phosphate..)

Iron Wire.....	37½ grains.	4.3 grammes.
Precipitated Calcium Carbonate..	120 "	13.7 "
Potassium Acid Carbonate.....	9 "	1 "
Sodium Phosphate.	9 "	1 "
Cochineal.....	30 "	3.5 "
Sugar.....	14 ounces.	700 "
Water.....	A sufficient quantity.	

Dissolve the Iron Wire in one fluid ounce (or fifty cubic centimetres) of Phosphoric Acid and half an ounce (or twenty-five cubic centimetres) of water in a flask, heating gently till dissolved. Dissolve the Precipitated Calcium Carbonate, Potassium Carbonate and Sodium Phosphate in half an ounce (or twenty-five cubic centimetres) of Concentrated Phosphoric Acid and two ounces (or one hundred cubic centimetres) of water. Mix the solutions, filter and set aside. Boil the cochineal and six fluid ounces

(or three hundred cubic centimetres) of water for fifteen minutes ; cool, filter and wash the filter with sufficient water to make seven ounces (or three hundred and fifty cubic centimetres). In this dissolve the sugar with the aid of heat, and strain. When cold, add the solution of phosphates and sufficient water to measure twenty fluid ounces (or one thousand cubic centimetres).

NOTE.—Large amounts used.

SYRUPUS HYPOPHOSPHITUM COMPOSITUS.

(Compound Syrup of the Hypophosphites.)

Calcium Hypophosphite.....	80 grains.	12 grammes.
Potassium Hypophosphite..	40 "	6 "
Manganese Hypophosphite.	40 "	6 "
Iron Hypophosphite.....	40 "	6 "
Potassium Citrate	30 "	4.5 "
Strychnine Hydrochloride ..	2 "	0.3 "
Quinine Hydrochloride	8 "	1.2 "
Sugar	14 ounces.	700 "
Water.....	A sufficient quantity.	

SYRUPUS SENEGÆ.

(Syrup of Seneya.)

Liquid Extract of Senega ...	4 ounces.	200 ccs.
Sugar	14 "	700 grammes.
Water.....	A sufficient quantity.	

Mix the Liquid Extract of Senega with ten ounces (or five hundred and fifty cubic centimetres) of water ; filter through Kaolin, washing the filter with distilled water ; dissolve the sugar in the filtrate ; strain and add water to make twenty fluid ounces (or one thousand cubic centimetres) of the Syrup.

Dose.—½ to 1 fluid drachm.

NOTE.—Preferred to tincture.

SYRUPUS IPECACUANHÆ.

(Syrup of Ipecacuanha.)

Liquid Extract of Ipecacuanha.	1 fld. oz.	50 ccs.
Acetic Acid.....	96 minims,	10 "
Glycerine	2 ounces.	100 "
Sugar.....	14 "	700 grammes.
Water	A sufficient quantity.	

Mix the Liquid Extract of Ipecacuanha, Acetic Acid and ten ounces (or five hundred cubic centimetres) of water ; filter through Kaolin into a vessel containing the Glycerine ; add the sugar and dissolve without the aid of heat ; strain and add water to make twenty fluid ounces (or one thousand cubic centimetres) of the Syrup.

Dose.—1 to 2 drachms.

NOTE.—Strongly recommended.

TINCTURA ARNICÆ FLORES.

(Tincture of Arnica Flowers.)

Arnica Flowers, in No. 20 powder.....	2 ozs.	100 grammes.
Alcohol (45 per cent.).....	A sufficient quantity.	

Moisten the powder with four fluid ounces (or two hundred cubic centi-

metres) of the alcohol, and complete the percolation process. The resulting tincture should measure one pint (or one thousand cubic centimetres).

Dose.—½ to 1 fluid drachm.

NOTE.—This tincture is the preparation exclusively used in this country.

TINCTURA JALAPÆ COMPOSITA.

(Compound Tincture of Jalap.)

Jalap. No. 40 powder.....	1 oz., 262 grains.	80 grammes.
Scammony, "	175 grains	20 "
Turbeth, "	88 "	10 "
Alcohol (60 per cent.).....	A sufficient quantity.	

Moisten the powders with two fluid ounces (or one hundred cubic centimetres) of the alcohol, and complete the percolation process. The resulting tincture should measure one pint (or one thousand cubic centimetres).

NOTE.—Ordinary tincture is never used. This preparation is a favorite among French physicians.

TINCTURA OPII DEODORATA.

(Deodorized Tincture of Opium.)

Opium	3 ounces.	150 grammes.
Alcohol (90 per cent.) ..... } Distilled Water..... }	Of each a sufficient quantity.	

Rub the opium to a paste with ten fluid ounces (or five hundred cubic centimetres) of distilled water previously heated to at least 200° F. (93.3° C.); set aside for six hours. Add another five ounces (or two hundred and fifty cubic centimetres) of water; mix thoroughly; set aside in a covered vessel for twenty-four hours; strain; press; mix the liquids. Let the infusion stand for twelve hours in a vessel surrounded by ice; filter through a pleated filter containing a piece of ice. To the filtrate add five ounces (or two hundred and fifty cubic centimetres) of the alcohol. Set aside for twenty-four hours; filter. Determine the percentage of morphine in the liquid by the process given under Tincture of Opium; and to the filtered liquid add a sufficiency of a mixture of alcohol water so that the resulting tincture will contain not less than 0.70 grammes, nor more than 0.80 grammes, in one hundred cubic centimetres.

Dose.—5 to 15 minims for repeated administration.

For a single administration 20 to 30 minims.

NOTE.—Much needed.

TINCTURA SANGUINARIÆ.

(Tincture of Sanguinaria.)

Sanguinaria, in No. 40 powder...	2 ounces.	100 grammes.
Acetic Acid.....	192 minims.	20 ccs.
Glycerine	1 ounce.	50 "
Alcohol (80 per cent.)	A sufficient quantity.	

Mix the acetic acid, glycerine and alcohol. Moisten the sanguinaria with two fluid ounces (or one hundred cubic centimetres) of the menstruum; and complete the percolation process. The resulting tincture should measure one pint (or one thousand cubic centimetres).

NOTE.—Less important.

FERRI HYPOPHOSPHIS.

(*Ferric Hypophosphite.*)

$FE_2 (PH_2O_2) 6.$

Ferric hypophosphite obtained by the interaction of calcium hypophosphite and ferric chloride.

Characters and Tests.—A grayish white powder; only slightly soluble in water; entirely soluble in solution of potassium citrate, forming a green solution. Should give no reaction for carbonates, phosphate.

NOTE.—Used in preparation of Syr. Hypophosphitum.

HYDRARGYRI IODIDUM FLAVUM.

(*Yellow Mercurous Iodide.*)

Hg. I.

Mercurous iodide obtained by interaction of mercurous nitrate and potassium iodide.

Characters and Tests.—A bright yellow amorphous powder; almost insoluble in water; entirely insoluble in alcohol and ether.

NOTE.—Prepared according to this formula it is stable, and is in demand.

SYRUPUS HYPOPHOSPHITUM.

(*Syrup of the Hypophosphites.*)

Calcium Hypophosphite.....	394 grains	45 grammes
Sodium Hypophosphite	131 "	15 "
Potassium Hypophosphite.....	131 "	15 "
Tincture of Lemon.....	87 minims	10 ccs.
Sugar	14 ounces	700 grammes
Water to make.....	20 "	1000 ccs.

Dissolve the salts in ten fluid ounces (or four hundred cubic centimetres) of water; dissolve the sugar in the solution without the aid of heat; add the tincture of lemon, and finally enough water to make twenty fluid ounces (or one thousand cubic centimetres) of the syrup.

Dose.—1 to 2 drachms.

NOTE.—Less important.

FERRI PHOSPHAS SOLUBILIS.

(*Soluble Ferric Phosphate.*)

Made according to the process of the U. S. P.

RESINA LARICIS.

(*Red Spruce Gum.*)

A resinous exudation from the stem and branches of Larix Americana.

TINCTURA RESINA LARICIS.

(*Tincture of Red Spruce Gum.*)

Red Spruce Gum.....	2 ozs.	100 grammes.
Alcohol (90 per cent.).....	20 ozs.	1000 ccs.

Made by the maceration process as tincture of myrrh.

SYRUPUS FERRI IODIDI.

(*Syrup of Ferrous Iodide.*)

Iron in Wire	½ oz.	25 grammes
Iodine	720 grains	83 "
Refined Sugar.....	15 ounces	750 "
Distilled Water	A sufficient quantity.	

Process.—The same as British Pharmacopeia.

NOTE.—Recommended as containing less sugar. It is not so liable to crystallize out in cold weather.