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MONTREAL MEDICAL JOURNAL.

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PRESIDENT'S ANNUAL REPORT MONTREAL MEDICO-
CHIRURGICAL SOCIETY.

BY

W. GRANT STEWART, B.A., M.D., Montreal.

I can imagine no greater compliment the members of the Medico-Chirurgical Society can bestow upon one of their number than to choose him as their President. My gratitude is sincere, and I find it difficult to express my appreciation of the honour you did me in asking me to preside at your meetings during the year just ended. It was not, indeed, without some considerable degree of trepidation that I accepted the responsibilities of the office. But since this greatness was thrust upon me I deemed it would be ungracious on my part not to accede to your wishes.

The year has come and gone, and I am here to-night to give an account of my stewardship. My tenure of office has been rendered happy by your kindly interest, by the advice of my distinguished predecessor, Dr. Hutchison, by the consideration of a sympathetic Council and the labours of our indefatigable secretary. Of Dr. McKee's unfailing courtesy, self-denying work, and earnest endeavours to make each programme varied and interesting I cannot speak in too high terms. Those only who have preceded him in the secretarial chair—and a goodly number I may say who now stand high in the annals of Montreal medicine have done so—can realize in its fulness the labour involved and how much the success of the meetings depends upon the secretary. Not only, however, in his official capacity, but from a scientific standpoint does Dr. McKee reflect alike credit on himself and on the Society. This Association delights to honour those to whom honour is due.

I would like to take this opportunity to congratulate the Society on their choice of President for the ensuing year. No member can fill the chair with more ability than Dr. Martin. Full of the enthusiasm of youth, the judgment of vigorous manhood, steadily climbing the ladder which leads to fame and success, he is just the man to make an ideal president, and one who will maintain the dignity and traditions of the office. I can wish him nothing better than that he may have as much

happiness and real pleasure as I have had while holding the reins of office. As I look over the list of noble names which have in the past graced this chair, I realize it is no small honour, indeed, to follow in their train.

In no way can one form a better estimate of the medicine of the earlier days of Montreal than by going over the pages of the old minute books of this Society. What a story their pages unfold! They give sketches of the master minds in medicine of early days—the men who laid the foundation of everything great, and good, and scientific, and solid in the medicine of this city.

It is a story of struggle, of temporary defeat and final triumph. On these pages are written the names of all the great men who have been actors in the drama of local medicine for the past half century. As one reads, it is shown that "there is no exemption from the common doom for him who holds the shield to protect others. The professor from the chair, the practitioner in his busiest period hears a knock more peremptory than any patient's midnight summons, and goes on that unreturning visit which admits of no excuse and suffers no delay."

It is interesting to note that this is the 49th annual meeting since the earliest beginnings of the Society in 1843, and the 40th anniversary of the final reorganization in 1870. It is stated in the old minute book "that at a meeting of the members of the Medical Faculty of Montreal, held at the house of Dr. Crawford, in Little St. James Street, on Saturday, 23rd September, 1843, it was unanimously resolved 'that it is very desirable that the members of the Medical Faculty of Montreal should have an opportunity of meeting in a friendly manner, for the purpose of communicating together in subjects connected with their profession, and the undersigned agree to form themselves into a Society for that purpose: A. F. Holmes, O. F. Bruneau, J. B. C. Tressler, Archibald Hall, Henry Mount, Wm. McNider, J. G. Bibaud, Jas. Crawford, Geo. W. Campbell, C. S. Sewell, Wm. Sutherland, Francis Badgley, Arthur Fisher, David B. Logan, Wm. Fraser, C. A. Campbell, M. McCulloch, F. C. T. Arnoldi, Peter Munro.'"

The following are the fundamental laws of the Society: That the Society be denominated "The Medico-Chirurgical Society of Montreal;" "That the objects of the Society's meetings be the communication of any interesting subject connected with the medical profession, whether in the form of cases in actual practice, details of post mortem examinations, the exhibitions of preparations in morbid anatomy, chemistry, natural history, or any branch bearing on the profession."

Of the original members all are dead with the exception of Arthur Fisher, of Montreal. The Society at this time was in existence for eight

years. No meetings were held after March 6th, 1852. The names of a number of prominent men were on the list of the Society's honorary members: Robt. Dunglison, Prof. of Institutes of Medicine, Jefferson College; Dr. Graves, Dr. Stokes, Dr. Corrigan, Dublin; Dr. Marshall Hall, London; Dr. John Rose Cormack, Edinburgh, Editor *London & Edinburgh Journal of the Medical Sciences*; Dr. McDonnell, Dublin, Editor *Dublin Medical Journal*.

The next thing we hear of the Society is in 1865. A meeting of the members of the medical profession of Montreal was called by a circular signed by R. P. Howard, M.D., L.R.C.S.E.; Hector Pelletier, M.D., Edin.; W. H. Hingston, M.D., L.R.C.S.E. And in response to the call the following members of the profession assembled on Friday, July 28th, 1865, at 8 p.m., in the committee room of the Mechanics' Hall, in all twenty-three: Drs. Sutherland, R. P. Howard, Scott, Pelletier, Coderre, Hingston, Boyer, Reddy, Craik, Fenwick, Dagenais, Pickup, F. W. Campbell, Trenholme, Leprohon, Rottot, Squire, Thompson, Sabourin, Bessey, Raymond, Guerin, Hamel, Labadie, Vilbon, Gauthier, Mount, Jacques, Dubuc, Leblanc.

On motion of Dr. Howard, seconded by Dr. Scott, Dr. Sutherland was called to the chair. And on motion of Dr. Scott, seconded by Dr. Hingston, Dr. Squire was requested to act as secretary. The President then briefly addressed the meeting in French and English, stating its object, namely to organize an association for the purpose of advancing medical and surgical science in the city and province. It was moved by Dr. Hingston, seconded by Dr. Pelletier, and unanimously resolved:

"That it is desirable to form a Society for the Advancement of Medical and Surgical Science in this City and Province, to be styled—
"The Medico-Chirurgical Society of Montreal." A committee was appointed to draw up regulations for the organization of the Society.

At the adjourned general meeting held on the evening of August 4th, 1865, the report of the committee on organization was presented, and the following twenty-four gentlemen, duly qualified, formed the Society: Drs. Geo. W. Campbell, Wm. Sutherland, Wm. Fraser, R. Palmer Howard, Eugene H. Trudel, Beaubien, J. Emery Coderre, J. G. Bibaud, Wm. E. Scott, Robt. Craik, Hector Pelletier, W. H. Hingston, John Reddy, J. L. Leprohon, George E. Fenwick, L. Boyer, E. Lemire, Dagenais, A. B. Laroque, Robert Thompson, Globensky, Desrosiers, F. W. Campbell, W. Wood Squire.

During the next three or four months nineteen new members were added. Of these forty-three members who constituted the new Society, all have passed away but our esteemed friend Dr. G. P. Girdwood. I

am sure he could give us some interesting reminiscences of these olden days. We are glad to have him with us: he is an example to us all. He has always been and is still a regular attendant at our meetings, and we trust he may be with us for many years to come.

No meetings were held after March 2nd, 1886.

The final reorganization was made in 1870. A meeting of the members of the medical profession was held in the reading room of the Natural History Society on the evening of November 5th, 1870, for the purpose of considering the formation of a Society for the Advancement of Medical and Surgical Science in this city. Dr. Fraser was appointed chairman, and Dr. Roddick was requested to act as secretary. After considerable discussion, the following resolution, moved by Dr. Geo. W. Campbell, seconded by Dr. Hingston, was carried unanimously: "That this meeting form themselves into a Society to be called 'The Medico-Chirurgical Society of Montreal.'" A constitution and by-laws were adopted at a subsequent meeting.

The new Society commenced with thirty-eight members: Drs. Geo. W. Campbell, Robt. E. Godfrey, Colin C. Sewell, S. B. Schmidt, D. C. McCallum, John Reddy, J. M. Drake, E. Robillard, A. H. Kollmyer, John Bell, Geo. Ross, T. G. Roddick, T. A. Rodger, Wm. Fraser, A. H. David, Hector Pelletier, Geo. Fenwick, Robt Craik, Robt. Thompson, E. H. Trenholme, Angus McDonnell, J. J. Dugdale, Wm. Gardner, John Vicat, S. E. Tabb, Wm. Sutherland, W. E. Scott, Robt. L. McDonnell, J. L. Leprohon, R. P. Howard, W. H. Hingston, F. W. Campbell, G. P. Girdwood, J. P. Rottot, R. A. Kennedy, Wm. Fuller, C. J. H. Chipman, John T. Finnie.

Of the original members of the reorganized Society the following alone remain: Drs. T. G. Roddick, Wm. Gardner, G. P. Girdwood, John T. Finnie.

The minutes form very interesting reading, and their value is such that for safe keeping they should be placed in the library of the College.

I have culled some jottings from the old records. The Society originally met on each alternate Saturday from October 1st to May 1st, and on the first Saturday of the month for the remaining six months of the year. In 1871 the night of meeting was changed from Saturday to Friday. Occasionally meetings were cancelled because of the small number present. The membership fee was three dollars. Among the names of the members in the early years many were French, and the minutes were written both in French and English, which shows the *entente cordiale* which existed in those days.

In 1873, Dr. A. A. Browne became a member. On March 28th, 1873, it was moved and seconded that "the secretary be instructed to

keep a book with an index in it into which may be entered the names, with remarks of those who do not pay for medical attendance. That the book be produced at the meetings."

The following interesting entry is found in the minutes of November 13th, 1874: "The ballot was taken for Dr. W. Osler which resulted in his unanimous election for membership." For a number of years after this date Dr. Osler's name is a very prominent one in the proceedings of the Society. October 22nd, 1875, "Dr. Shepherd was proposed by Dr. Osler." January 28th, 1876, "The ballot for Dr. Buller was entirely favourable."

An amusing minute is noted on December 20th, 1875: "An extraordinary meeting of the members had been called. The chairman explained that the meeting had been called in compliance with a requisition presented to him and signed by a large number of the members of the Society. The object of the meeting was to consider a bill affecting the medical profession, which was about to be legislated upon by the Quebec Parliament." Several telegrams, which came from Quebec, are entered in the minutes. I shall only refer to the last and give it as it appears in the minute book:

Montreal Telegraph Co.

No. 331. Time 2.15.

Montreal, December 20th, 1875.

By Telegraph from Quebec.

To Dr. W. E. Scott.

"Bill lies dead. Printed in French. Go no further. Amen."

Signed,

R. H. RUSSELL, M.D.

The Society held its meetings for a number of years in the Natural History Society's rooms. In May, 1880, it met for the first time in the rooms 14 Phillips Square, where Birks' building now stands. Here, in 1888, began my acquaintance with the Society. During the Phillips Square regime Osler made the meetings famous by his morbid anatomy demonstrations. From 1890 to 1901 the Society led a somewhat nomad life. About 1890, for one year the meetings were held in the Natural History Society's rooms on University Street under the presidency of Dr. F. J. Shepherd. The next move was to Dr. Buller's chambers at the corner of Stanley and St. Catherine Streets. Six years were spent here under the following presidents: F. Buller, Jas. Stewart, Jas. Bell, G. P. Girdwood, A. D. Blackader, and G. W. Wilkins. For the next three years the meeting place was Drummond Hall, situated a few doors below St. Catherine Street on Drummond Street. The presiding officers at this point were Robt. Craik and J. G. Adams, the latter hold-

ing office for two years. During Dr. Adami's time the Society was incorporated and a new constitution was drawn up.

In 1900 the headquarters of the Society were again changed to Norman's dancing academy at the corner of McGill College Avenue and St. Catherine Street. Dr. Perrigo was President at this time. This corner has had rather an interesting history. I can remember when a block of stone houses stood here occupied mostly by doctors. Some friend, with antiquarian proclivities, might erect a tablet "Here lived William Osler, Frank Buller, and Arthur A. Browne." A halo of romance surrounds the spot. For did not this triumverate become famous, and many an interesting story is still handed down of their daily walk and conversation. All that now remains of the old corner is Osler . . . and the dancing academy.

In 1901, after much wandering and many vicissitudes, the Society settled in its present quarters. It was, I think, Dr. Perrigo who welcomed us. This was another epoch in our history. Since then it has been progress all along the line. Our membership increased, our influence increased, the interest in our meetings increased, and the fee increased. Many, and interesting, have been the meetings held here. Could these walls speak, what a history would they tell of heated discussions, of able addresses, and of scientific demonstrations.

The rooms, which were considered too large, have now become almost too small. Under the last regime, the following have occupied the chair: James Perrigo, Geo. E. Armstrong, H. S. Birkett (two years), J. A. McDonald, F. R. England, F. G. Finley, Wesley Mills, J. Alex. Hutchison, W. Grant Stewart, Chas. F. Martin.

• Special volumes of the proceedings were published from 1881 to 1894. Since that time the proceedings have been published in the MONTREAL MEDICAL JOURNAL. For a number of years the Society has employed a stenographer to keep a record of the discussions.

Since I joined the Society the following members have "one by one crept silently to rest": R. Palmer Howard, Geo. Ross, J. J. Dugdale, Richard McDonnell, R. A. Kennedy, John Reddy, E. H. Trenholme, R. T. Godfrey, T. Johnson Alloway, Wyatt G. Johnston, R. C. Kirkpatrick, Thos. D. Reed, E. P. Williams, A. Brodeur, J. A. Brunelle, Rollo Campbell, F. W. Campbell, D. McG. Decow, Chas. O'Connor, W. H. Drummond, James Stewart, Robt. Craik, Frank Buller, N. D. Gunn, D. C. McCallum, John D. Cameron, W. R. Sutherland, Sir Wm. H. Hingston, W. S. England, W. J. Telfer, S. F. Wilson, Arthur A. Browne.

Such is a sketch of the past. "The dust of passing years has blurred the details, even, in part, the general outlines of the picture."

PRESIDENTS OF THE MONTREAL MEDICO-CHIRURGICAL SOCIETY.

1843	No president.	1884	T. G. Roddick.
1844	No president.	1885	T. G. Roddick.
1845	A. F. Holmes.	1886	J. C. Cameron.
1846	James Crawford.	1887	James Perrigo.
1847	Francis Badgley.	1888	Wm. Gardner.
1848	Geo. W. Campbell.	1889	Geo. E. Armstrong.
1849	Wm. Sutherland.	1890	F. J. Shepherd.
1850	F. C. T. Arnoldi.	1891	F. Buller.
1851	R. L. McDonnell.	1892	James Stewart.
1852		1893	James Bell.
1855		1894	G. P. Girdwood.
	No meetings.	1895	A. D. Blackader.
1866	W. H. Hingston.	1896	G. W. Wilkins.
	No meetings.	1897	Robert Craik.
1870	Geo. W. Campbell.	1898	J. G. Adami.
1871	T. H. Pelletier.	1899	J. G. Adami.
1872	R. P. Howard.	1900	J. Perrigo.
1873	W. H. Hingston.	1901	
1874	Dr. Reddy.	1902	Geo. E. Armstrong.
1875	Dr. Godfrey.	1903	H. S. Birkett.
1876	Geo. E. Fenwick.	1904	H. S. Birkett.
1877	F. W. Campbell.	1905	J. A. McDonald.
1878	H. H. Howard.	1906	F. R. England.
1879	R. Palmer Howard.	1907	F. G. Finley.
1880	W. H. Hingston.	1908	Wesley Mills.
1881	Geo. Ross.	1909	J. Alex. Hutchison.
1882	R. A. Kennedy.	1910	W. Grant Stewart.
1883	T. Rodger.	1911	Chas. F. Martin.

SECRETARIES OF THE MONTREAL MEDICO-CHIRURGICAL SOCIETY.

1843	F. Badgley.	1882	A. Henderson.
1844	F. Badgley.	1883	D. F. Gurd.
1845	R. McDonnell.	1884	D. F. Gurd.
1846	David	1885	D. F. Gurd.
1847	Sewell.	1886	R. F. Ruttan.
1848	Pelletier	1887	R. F. Ruttan.
1849	Gibb.	1888	R. F. Ruttan.
1850	Gibb.	1889	H. S. Birkett.
1851	Gibb.	1890	J. G. McCarthy.
1852		1891	Kenneth Cameron.
1865		1892	Kenneth Cameron.

	No meetings.	1893	Kenneth Cameron.
1865	Nemire.	1894	G. Gordon Campbell.
1866	W. Wood Squire.	1895	G. Gordon Campbell.
1867	-	1896	G. Gordon Campbell.
1868		1897	Ridley McKenzie.
1869		1898	Alfred T. Bazin.
	No meetings.	1899	Alfred T. Bazin.
1870	T. G. Roddick.	1900	Alfred T. Bazin.
1871	T. G. Roddick.	1901	Alfred T. Bazin.
1872	T. G. Roddick.	1902	Alfred T. Bazin.
1873	T. G. Roddick.	1903	A. McKenzie Forbes.
1874	T. G. Roddick.	1904	A. McKenzie Forbes.
1875	John Bell	1905	A. H. Gordon.
1876	A. A. Browne.	1906	A. H. Gordon.
1877	R. McDonnell, J. D. Cline.	1907	A. H. Gordon.
1878	O. C. Edwards.	1908	Hanford McKee.
1879	O. C. Edwards.	1909	Hanford McKee.
1880	O. C. Edwards.	1910	Hanford McKee.
1881	O. C. Edwards.	1911	Hanford McKee.

Now a word about the present. As one scans the programmes, and reads the papers, and studies the discussions of last year when massed together, one stands in wonder at the wealth of material, at the amount of earnest work done and at its scientific excellence. You will admit that all this must be to the furtherance of knowledge and the good of mankind.

What are the advantages offered by a society like this? They are many. It inculcates sociability. It is almost the only place where one can meet his fellows on common ground. This is becoming, in fact, it has become, a great city, and it is difficult to meet one's conferees except in some such association as this. It promotes friendship. Perhaps its most important function is educational. It promotes high ideals, acts as a stimulus to do one's best. It keeps the old man young, like the ancient philosopher, who maintained perennial youth by the constant companionship of young men. It makes the young man old, in that he profits by the experience of his seniors. It helps one to "cling to that mood of mind bent on winning to the very heart of everything," helps one "to believe in real work as the means whereby, in its own good time, what is now hidden will be laid bare."

A committee was appointed last winter to canvass all those who were not members among the English physicians of the city. Of

those to whom I spoke, some were only waiting to be asked; some, like Felix, wished to delay for a more "convenient season"; one absolutely refused—he was perfectly satisfied to go on in his old rut. The members may be divided into three classes: Those who never come to the meetings; those who come occasionally, and those who are regular attendants. The progressive portion of the profession is to be found, as would naturally be expected, in the last class.

This Society can wield a great influence, if every member—and every member can do something—would pledge himself to earnest effort to advance its interests. There is a great opportunity, and it demands only united and determined effort on the part of each member.

In conversation with Dr. Chipman one day last winter, he made the remark that "there was something wrong with the man who did not attend the meetings of the Society." "Why is it," asks Osler, "that a large majority of all practitioners are not members of a medical society?" He answers, "In part it is due to the apathy of the officers, and failure to present an attractive programme, but more often the fault is in the man himself. Perhaps, given over wholly to commercialism, a doctor feels it a waste of time to join a society. And so it is, if he is in the profession for the money he can get out of his patients, without regard to the sacred obligation to put himself in the best possible position to do the best that is known for them. The man who knows it all and gets nothing from the Society, reminds one of that dried up miniature of humanity, the prematurely senile infant, whose tabetic marasmus has added old age to infancy. Why should he go to the Society and hear Dr. Jones on the gastric relations of neurasthenia, when he can get it all so much better in Einhorn and Ewald? He is weary of seeing appendices, and there are no new pelvic viscera for demonstration. It is a waste of time he says, and he feels better at home, and perhaps that is the best place for a man who has reached this stage of intellectual stagnation."

"A well conducted society," says the same authority, "may be of the greatest help in stimulating the practitioner to keep up habits of scientific study."

Eighteen regular meetings were held during the year, and one special meeting, at which a very interesting address was given by Dr. R. W. Phillips, of Edinburgh, Scotland, on "The Dispensary Movement and the General Practitioner." Dr. Phillips is the founder of this great movement in connexion with tuberculosis. The address was of great value and of interest, and much light was thrown upon this latest method of combating this disease. Dr. Elliot, of Toronto,

read a paper on "Tuberculosis and Milk." As he is the secretary of the commission appointed by the Canadian Medical Association to look into this question, he was able to speak with authority. An interesting discussion on both papers followed. The evening concluded with a successful "smoker."

At the commencement of the year there were 179 members. Fourteen new members were added. Four severed their connexion with the Society, making a total of 189 members at the end of the year. Of these, 186 are resident and three non-resident. In these figures the house staffs of the various hospitals are included.

I am sorry to say that some of our most active members have left us. We shall miss T. Wesley Mills's familiar voice in our discussions. He always added dignity to our meetings. And those of us who were his old students feel we have lost a friend. We hope that he may have health and happiness in his adopted home. Dr. Campbell Howard, whom we respect not only for his own sake but for the love we had for his esteemed father, has gone to a larger sphere of usefulness. Dr. Wolbach has done almost more than any man since Osler's time to make the pathological part of the evening interesting. Never has there been such a variety of rare specimens, so beautifully prepared, and so clearly described. The sincere thanks of the Society are due Dr. Wolbach for the splendid work he has done for us. Our loss is Harvard's gain.

"Our annual meeting never fails to teach us at least one lesson. The art whose province it is to heal and to save, cannot protect its own ranks from the inroads of disease and waste of the destroyer." The words of Holmes apply in a very emphatic manner to the death of one of our most esteemed members, who has passed away since our last annual meeting. For years he had been one of the very active members, and for some time one of the secretaries. The reports of the meetings over his signature are truly classical. A man who was beloved alike by confrere and patient. I refer to Arthur A. Browne, who upon the 26th day of January, 1910, was called from his labours to the great majority. He was well named the "beloved physician." It makes a difference to the world when such a man passes away.

Our Society stands for growth and advancement, so it is not unnatural, in the ordinary course of events, that last year should have been one of the most successful in its history. At the largest meeting of the year the attendance was 70. The average attendance was 54.

I should like to express my thanks to all those who contributed to the success of the meetings . . . to those who came as listeners (it is always encouraging to the actors on the stage when there is a good and

enthusiastic audience); to the writers of papers; to the exhibitors of interesting specimens; to those who gave demonstrations; to the readers of case reports; to those who, at considerable personal trouble, showed living cases; and to those members who added to the interest and usefulness of the meetings by taking part in the discussions. The papers were of a high order, and numbered eighteen:

PAPERS.

- Hanford McKee.—Spring Catarrh; Trachoma Bodies.
- J. Appleton Nutter.—Sacro Iliac Strain.
- J. R. Goodall.—Climacteric Hæmorrhages.
- R. P. Campbell.—The Spirochæte and Its Diagnostic Significance.
- W. W. Chipman.—Report on the Method of Spinal Anæsthesia as Demonstrated in New York by Prof. Jonesco, of Bucharest.
- John McCrae.—An Analysis of 71 Cases of Scarlet Fever.
- J. R. Goodall.—Should the Eclamptic Mother Nurse?
- J. E. Laberge.—The Board of Health in Connexion with Infectious and Contagious Diseases.
- W. S. Morrow.—Nodal Rhythm.
- A. Laphorne Smith.—Twenty-five Years in Abdominal Surgery.
- J. G. Adami and W. Tytler.—The Effect of Cold on the Body.
- R. H. Craig.—Impressions of the Sixteenth Medical Congress, Buda Pest.
- E. M. von Eberts.—Intrathoracic Surgery; Differential Methods; Exhibition of Positive Pressure Apparatus.
- A. McKenzie Forbes.—Some Forms of Treatment Illustrated.
- E. W. Archibald.—Pancreatitis, Acute, Subacute, and Chronic Recurring Forms of the Disease.
- T. Wesley Mills.—Some Considerations Bearing on the Surgeon, the Patient, the Nurse, Based Largely on Personal Experiences as a Patient.
- Dr. Maude Abbot was to have read a paper at the last meeting of the series, on Original Contributions of Women to the Art and Science of Medicine, but unfortunately was prevented through illness. We hope, however, Dr. Abbot will give the Society the pleasure of hearing the paper, which we know in her hands will be both interesting and instructive. The Society would take this opportunity to congratulate Dr. Abbot on the great honour bestowed on her by McGill University, in granting her the degree of M.D., *honoris causa*. She holds the distinguished honour of being the first lady graduate in the Faculty of Medicine of McGill. She is eminently deserving of the distinction, for her work is acknowledged the world over.

The Demonstrations were eight in number:

- J. L. Todd.—The New Human Trypanosome.
- E. M. von Eberts.—Demonstration of the Apparatus for the Administration of Rectal Anæsthesia.
- H. A. Lafleur.—A Glass for Use in Examining Cases of Ocular Paralysis.
- F. E. Tooke.—A New Forceps for the Removal of the Anterior Lens Capsule.
- G. Shanks.—Two Cases of Appendicitis Perforated with Pins.
- H. M. Little.—Mombert's Tube for Postpartum Hæmorrhage.
- F. W. Nagle.—Demonstration of the Tester Apparatus for Nitrous Oxide Oxygen Anæsthesia.

CASE REPORTS.

- A. E. Garrow.—Tetany occurring during operation on the stomach.
- A. Laphorne Smith.—Tubal pregnancy.
- F. T. Tooke.—Two cases of the so-called doubling of the puncta lacrymalis.
- Geo. H. Mathewson.—Thrombosis of the retinal veins with return of good vision; Amblyopia *ex* anopsia with acquisition of good vision.
- R. Kerry.—Five cases of tuberculosis of the eye.
- J. Alex. Hutchison.—Actinomycosis of the ascending colon.
- A. McKenzie Forbes.—The place of braces in the treatment of weak, pronated, and flat feet, with especial reference to a simple method for the preparation of the plaster cast on which they are fashioned.
- F. C. Finley, Geo. E. Armstrong, and S. B. Wolbach.—Amœbic abscess of the liver originating in Montreal.
- A. E. Garrow.—Pneumococcus peritonitis.
- R. E. Powell.—Hook Worm Disease.
- D. A. Shirres.—Injuries to the brachial plexus.
- W. F. Hamilton.—Metallic poisoning.
- Geo. E. Armstrong and S. B. Wolbach.—Banti's disease.
- J. Alex. Hutchison and S. B. Wolbach.—Carcinoma of the splenic flexure.
- A. H. McCordick and R. G. Powell.—Report on cases of typhoid fever.
- H. L. Reddy.—(a) Cæsarean section in a girl of 14 years; (b) Elephantiasis.
- W. W. Chipman.—Vicarious hæmorrhage, Hæmatemesis.
- H. S. Mucklestone.—Streptococcus mucosus from cases of suppurative otitis media.
- Hanford McKee.—Trachoma bodies.

LIVING CASES.

Geo. H. Matthewson.—Result of exenteration of the orbit, showing the cosmetic result of this radical operation. The whole eyeball had been removed together with the outer two-thirds of the eyelids for rodent ulcer.

E. Hamilton White and W. H. Jamieson.—Cases showing radical mastoid operation. Dr. White showed some beautiful morbid specimens of the operation.

A. R. Pennoyer.—Fracture of the femur treated by Arbuthnot Lane's method; also X-ray plates before and after operation. In the discussion Dr. Armstrong reviewed the different methods of treatment in fractures.

D. A. Shirres.—Case showing the value of mesmerism in diagnosis.

A. E. Garrow.—Partial gastrectomy and pylorotomy. Two cases with specimens.

A. R. Pennoyer.—Old dislocation of the shoulder joint with fracture through the greater tuberosity. Operation described. Good result.

Colin R. Russell.—Three cases illustrating Edinger's Ersatz theory of tabes dorsalis.

D. A. Shirres.—Five cases illustrating injuries to the brachial plexus.

A. C. P. Howard.—(1) Microcephalic idiocy—child 9 months, Hebrew, sutures ossified, fontanelles closed; (2) True amaurotic family idiocy.

E. Hamilton White.—Chronic sinusitis.

J. Alex. Hutchison.—Dislocation of Semilunar cartilage.

J. M. Elder.—Excision of astragalus.

W. G. M. Byers.—(1) Case illustrating the good effect obtained by securing the tendons of the recti muscles during enucleation of the eye; (2) Case of congenital microphthalmus.

J. W. Stirling.—Microphthalmus and congenital cyst.

J. Appleton Nutter.—(1) Case of sacroiliac strain showing treatment employed; (2) Tendon transfer, peroneal group made to assume role of the calf muscles; (3) Cure of double congenital club foot.

Norman Viner.—Cretinism, two cases.

PATHOLOGICAL SPECIMENS.

Geo. E. Armstrong.—Carcinoma of ascending colon.

Geo. E. Armstrong, F. C. Finley and S. B. Wolbach.—Amœbic abscess of the liver originating in Montreal.

W. H. Tytler.—Typhoid perforation of the sigmoid; Cancer of the œsophagus; Malignant endocarditis; Carcinoma of appendix, (rare);

Bladder and kidney of a man who had chronic abscess of perinæum, 6 months standing; Ulcerative cystitis and right acute surgical kidney; Luetic aneurysm descending arch of the aorta; Abscess lung, girl.

W. D. McLachlan.—Variety of Specimens.

A. Laphorne Smith.—Tubal pregnancy; Lacerated cervix with polypi.

J. Alex. Hutchison and S. B. Wolbach.—Carcinoma of the splenic flexure of the colon.

E. W. Archibald.—Undescended testicle.

W. H. Tytler.—Cancer of the gall bladder; Intussusception; Mesenteric thrombosis.

C. K. Russell.—Two specimens of the cord from patients dying of acute anterior poliomyelitis.

J. W. Stirling.—Microphthalmus and congenital cyst.

O. S. Waugh.—(a) Chronic myocarditis; (b) Streptococcic septicaemia, showing multiple thrombi of both ventricles; (c) Child's heart showing multiple mural thrombi of both ventricles; (d) Rupture of lung from accident, patient 58 years; (e) Lung from case of a boy crushed in an elevator.

W. G. Turner.—Sarcoma of vertebræ.

S. B. Wolbach.—(1) Lipoma of the spinal cord in an infant 10 months old with cleft palate—very rare; (2) Malignant struma, elderly man which simulated aneurysm; (3) Cirrhosis liver—syphilitic—skull shows tertiary lesions, anomaly, aortic valve; (4) Carcinoma of the liver, secondary from carcinoma of the stomach, simulated abscess; (5) Multiple hernia of the substance of the brain into the arachnoid villi; (6) Massive softening of the brain due to thrombosis; (7) Cord tuberculous meningitis; (8) Vertebral column from a case of tuberculous meningitis; (9) Hob-nail liver; (10) Prostatic hypertrophy with hypertrophy of the bladder; diverticula of the bladder; double pyelonephrosis; (11) Banti's Disease—spleen 4,050 grammes; (12) Branched Meckel's diverticulum; (13) Enterolith in an inflamed and perforated Meckel's diverticulum; (14) Injection after delivery—uterus—a placental site deeply ulcerated; necrotic cervix; abscess of the corpus luteum; (15) Lung, elderly person who had chronic myocarditis and chronic nephritis, shows marked emphysema and emphysematous bullæ of unusual size; (16) Malignant endocarditis, with a mycotic aneurysm of the ascending aorta, purulent pericarditis; (17) Malignant aortic endocarditis, with mitral stenosis, man aged 25 years; (18) Extensive prolapsed rectum. Rare specimen. A more recent prolapse upon a chronic prolapse. Cause of death, rupture of the sigmoid flexure; (19) Jaundice, short duration. Alcoholic and syphilitic history. Liver 905 grammes.

W. S. Baird.—(1) Spleen and glands from a case of lymphatic leukaemia; (2) Heart and pericardium in a case of acute plastic pericarditis; (3) Carcinoma of the fundus of the gall bladder, with metastases in the liver. Clinical history indefinite. Autopsy revealed the condition; (4) Stomach and liver showing carcinoma of the lesser curvature and glands, with metastases in the liver; (5) Specimens from a woman five months pregnant, dying of condition diagnosed as eclampsia. At autopsy, acute cerebrospinal meningitis of pneumococcic origin; (6) Specimens from child, ten weeks, intensely jaundiced, congenital obliteration of the bile passages; pancreatic duct intact and opening into the duodenum. No bile ducts; (7) Recurrent carcinoma tumerous, showing metastases. Case of Dr. Elder's; cyst from brain of same case. Had a history of epilepsy; (8) Mucous degeneration of the appendix.

The thanks of the Society are due to the past President, Dr. Hutchison, for the fine picture of the late Dr. George E. Fenwick, one of the early members and a past president. He was a great surgeon, and shed lustre alike on the General Hospital, the College, and the Society.

We have also to thank our fellow member, Dr. Donald Hingston, for the speaking likeness of his illustrious father, the late Sir William Hingston, "an affable and courteous gentleman." On perusal of the old minutes, I find that he was one of the most energetic of the early members; in fact, it was partly due to his efforts that the Society was resuscitated. He was a man of many parts. In his time he had been mayor of Montreal, senator of the Dominion, bank president. On three different occasions he was elected President of this Society, in 1866, 1873 and 1880. No man before or since has held the office more than twice.

I might say here, that some of the pictures of the early presidents are still lacking. We should see that the list is completed.

We have delved into the glorious past, we have discussed the present. What shall we say of the future? Never in its history has the Society had a better outlook. There are to be some symposiums on different subjects. The hospital clinical evenings are to be revived. A new projection instrument has been acquired, which will add materially to the interest of the meetings. Some eminent men from other places will be heard during the season. An interchange of ideas is stimulating.

Our lease of these rooms expires next spring. Shall we renew or shall we make other arrangements? The outlay here is considerable. Can we, for less money, get more than we are getting now? The rooms are practically used only twice a month. In his address of last year, Dr. Hutchison referred to the possibility of making some arrangement with the University Club, where the rooms might be of a more homelike character and more utilized than at present. A committee appointed by

your Council has discussed the matter with a committee of the University Club. Before the present session is over, your committee hope to be able to lay before you some definite scheme for your consideration.

As a Society we should take cognizance of public health questions. We should use our knowledge and influence in securing a modern water supply. We should demand a purer quality of milk, collected and delivered in a sanitary manner. We should emphasize to the city and to the state the crying need for homes and hospitals for our most unfortunate fellow-sufferers—the incurable poor. Let us insist on cleaner streets, on healthy hygienic houses for the labourer. Typhoid epidemics should be things of the past.

The public are beginning to understand the doctor better. "There is now the infinitely broader relation of sympathy and confidence between the entire community and the whole medical profession engaged in a common work of discovering and removing the causes of disease. Hygiene and preventive medicine are the fields wherein the greatest triumphs of the future, as of the past, are to be achieved."

THE CURE OF SYPHILIS.

BY

F. MCKELVEY BELL, M.D., Ottawa.

President's Address before Ottawa Medical Society, November 25th, 1910.

A few short years ago and the announcement of such a title might have brought a smile of incredulity to the faces of most of us, and yet the past quarter century has been so replete with surprises for the medical world that we gaze into the future with exophthalmic eyes. The wheels of progress have carried us past antitoxin, vaccine therapy, Murphy's enterocolysis for the cure of peritonitis, X-ray therapy, the skiagraph, Beck's bismuth paste for the cure of chronic sinuses, Flexner's meningococcic serum, and a host of other important stations on the road to the "Ultima Thule," and still others loom in sight. Perhaps the most startling and uncanny of recent medical discoveries is that of the growth of the body tissues after removal, when placed in suitable media. It is rather gruesome to feel that one's kidney may go on growing on the shelf while all that was really mortal has been returned amid tears and flowers to the dust from whence it came.

And yet, great as each and all of these achievements have been, there is little doubt that for the good of long suffering humanity they have been eclipsed by the recent discovery of the cure of syphilis by Dr. Ehrlich, of Frankfort. Surely the prayers and the gratitude of a

multitude shall follow this great man and his worthy assistant, Dr. Hata, who through years of earnest, tedious labour, often in the throes of great discouragement, struggled onward and upward towards their goal.

Syphilis, the scourge of the ages, the "bete noir" of the medical profession, and the horror of the laity, has fallen under the stroke of a master hand. A few years hence and it is highly probable that locomotor ataxia, cerebro-spinal lues, general pareses, and the host of other nervous affections following in the wake of their great leader will become as rare as they are now common. Mercury and potassium iodide have so long been associated with the treatment of this dread disease, because we had no better remedies, that it seems like parting with old friends to discard them now, and yet it will not be long before they will be laid upon the shelf of the syphilographer, and the cobwebs of time will cover them with their inevitable film.

When, owing to the absence of antibodies, Dr. Ehrlich saw that there was little to be gained from serum therapy in the treatment of diseases due to animal parasites such as malaria, amoebic dysentery, syphilis, etc., he cast about for some chemical substance which, while powerful enough to destroy the parasite in the blood, should not be destructive or injurious to the host. This was a rather fine distinction, and one requiring considerable discrimination; but about this time atoxyl, an empirical arsenical compound, came into use as a remedy in sleeping sickness and furnished the key to the chamber of mystery. Atoxyl became the starting point for other chemical variations of arsenic, and one can imagine the tediousness of the work and the dogged determination of the investigators when one hears that six hundred and thirty substitution products were evolved and all thoroughly tested on animals artificially inoculated to find only four of any use as parasiticides. These substances are: acetyl-atoxyl, arsenophenylglycin, tryparosan and diamidodioxy-arsenobenzol; the last preparation being arbitrarily designated "606" by Ehrlich; and "606" is the *raison d'être* of the present paper.

There was one great difficulty which stood in the way of successful therapy with these preparations. It was found that if a cure were attempted with repeated small doses that animal parasites quickly acquired a species of immunity and, as if that were not sufficient, transmitted the immunity to their progeny. If self-preservation is the first law of human nature, it seems that we are not appreciably in advance of the spirochete in this respect, for not only do they protect their own lives, but even put some human beings to shame in the consideration they show for their offspring. The goal, therefore, became to find some parasiticide which would at a single dose, or at most a very few doses,

produce absolute destruction of all the invading organisms. When we bear in mind the first restriction, that it must not injure the host, this became a problem of considerable magnitude; and yet, impossible as it at first appeared, Dr. Ehrlich and his assistants not only attempted it but succeeded in this remarkable achievement.

It is interesting to note, as an instance of heroism and self-sacrifice, that Prof. Ehrlich's assistants in order to protect their patients from unknown danger were the first human beings to submit themselves to the test. No Victoria Cross decorates their manly bosoms, no vast multitudes cheer their onward march through the city streets, but a silent tribute of respect and admiration greets these heroes of the laboratory. They did not dare death in the hot blood of battle; no glamour of romance would mitigate their doom, but they faced it silently, fearlessly, nobly in their quiet laboratory room. Since that time, at least fifteen thousand infected individuals, in all stages of syphilis have been treated, and with almost universally good results. When men of international reputation, such as Neisser, Iversen, Finger, Wechselman, Michaelis, Alt, and Fordyce, have all given the most encouraging reports, we may be pardoned for becoming enthusiastic.

"606" is a fine yellowish powder put up in vacuum tubes containing from .3 to .9 gms. It oxidises rapidly on exposure to air, and when dissolved in water forms a strongly acid solution. The injection of this acid solution is extremely painful. It may be converted into a neutral solution according to Wechselman's method, or as an alkaline salt, according to the method of Alt.

Doses of from .2 to .9 gms. have been given, the former being usually insufficient and the latter unnecessary. It is fairly well established now that the ordinary dose for adults should be .6 gms. In some early cases it was found necessary to give a second dose, because at first there was a healthy tendency to err on the side of safety, and the maximum dose had not yet been determined.

As much as 1.5 gms. have been given without appreciable ill effect. The remedy has been administered in several different ways, and each has its enthusiastic advocates. Some inject it into the venous system direct; others give deep intramuscular injections; others subcutaneous injections; and still others combine the intravenous and deep muscular methods. The critics of the intravenous method claim that the drug is eliminated too quickly to have a permanent effect on chronic lesions. Elimination takes about four days by this method. It is painless, but not free from the danger associated with all intravenous injections. The deep muscular injections are slowly absorbed, are very painful, and may form an abscess or a local depot for absorption. The subcutaneous

method is not so painful, is simpler, and the chemical can be easily removed if symptoms of poisoning supervene. This method has been used almost exclusively in the cases of syphilitic skin rashes treated by Dr. Fordyce, of New York, and with astonishing good results.

The preparation of a dose for injection demands considerable care and takes about an hour. The powder is dissolved by trituration in two c.c. of ordinary sodium hydroxide solution. This forms a brownish liquid, and by the addition of glacial acetic acid, drop by drop, a canary yellow precipitate is deposited. This is dissolved in one to two c.c. sterile water and is neutralized by the addition of a few drops of ten per cent. caustic soda or acetic acid; it is then centrifuged, the supernatant fluid is pipetted off and sufficient normal salt solution added to make 10 c.c.; this is then drawn into a Luer syringe (with long needle attached) and is ready for use. The injection is made subcutaneously, just below the scapulæ, half into each, and upon the care with which the solution has been prepared depends the amount of pain produced,—if it is not absolutely neutral in reaction and perfectly triturated the pain will be more severe. A slight swelling arises at the point of injection, and increases for about 10 days, then remains stationary about one week, and gradually subsides.

There is usually a temperature of from 100 to 101 degrees lasting one or two days. Some individuals suffer considerable pain, requiring morphia; others do not appear to suffer at all. There may be an urticarial eruption but no permanent ill effects have been noted.

The "606" seems to be equally useful in primary, secondary, and tertiary lesions; the skin lesions particularly show marked and rapid results. Mucous patches clear up in three or four days; papular syphilides in ten days to six weeks.

One of our old professors used to admonish us in his earnest way: "Be sure you do the patient no harm." And this admonition brings us to another interesting point. Is Ehrlich's preparation injurious or dangerous to life? It would be indeed strange if such a powerful medicament were entirely free from danger. Practically all of our potent remedies possess an element of danger: strychnine, pilocarpine, anti-toxin; and hence we are not surprised that with "606" there are several contraindications. Ehrlich has warned the profession that his remedy must not be used in organic heart disease, retinitis, kidney disease, or in advanced nervous affections, such as advanced tabes or cerebro-spinal lues; and yet in spite of this warning many have gone contrary to his commands, and a few deaths have resulted. Fortunately they have been very rare, but where this has occurred the remedy should not be condemned as much as the over enthusiasm of the heedless. Some

experimenters claim wonderful results in tabes; some have gone so far as to state that after injection with "606" the reflexes have returned. It seems incredible that this should be the case in destructive lesions of the central nervous system, and yet it is possible that before the disease is too far advanced it may be arrested or slightly improved. The spirochete disappear from the lesions, all varieties, in from one to three days, or if they are still present at the end of this time Ehrlich believes that the dose was too small.

The Wasserman reaction has been of incalculable assistance in gauging the dose and in estimating the necessity for a second dose. In the cases observed in New York some months ago, the Wasserman was positive in all before the administration of "606" (fourteen cases, Dr. Fordyce), in three it remained positive one month after, but in the other eleven cases it became negative within from 19 to 21 days, and has remained so up to the time of writing. It is thought that in the first three cases the dosage was too small, as the experimenters were inclined to be cautious until they felt sure that there would be no ill results. The Wasserman reaction is fairly diagnostic of syphilis, and in all cases where it is positive we have direct indication for the use of Ehrlich's remedy,—always remembering the restrictions with regard to organic diseases. On the other hand, if the blood be drawn within a few weeks of the administration of mercury we are likely to find a negative reaction, and hence be deceived into thinking our patient cured. If the cure has not been complete, within six weeks after discontinuance of mercury, the reaction will again become positive. The Wasserman reaction among other revolutions has upset some of the dearest laws of our early student days. Profeta's and Colles' laws of immunity have been shown to be fallacies. The Wasserman reaction is present in the apparently healthy child born of a syphilitic father. It is present in the apparently healthy syphilitic mother; and in at least one instance, where the widow of a deceased syphilitic remarried a healthy man, she afterwards gave birth to a syphilitic child. It is sad to have the teachings of our youth annulled, to have our airy castles come tumbling about our ears, but when we arise crumpled, but purified, it gives us something to be thankful for,—that we have clearer vision and that we have strong arms and minds to build more.

One more doubt arises in our mind with regard to "606." Will the cure be permanent? Still another, Will there be remote ill effects upon the body not yet demonstrable? To the first of these questions there is no definite answer; time alone can show; but the fact that the Wasserman reaction disappears and, where the dose has been sufficient, has remained negative gives good grounds for the hope that the cure

will be permanent. So far, ill effects have not been noted where proper care was used in administration, and particularly where Ehrlich's perfected preparation was used.

To the first question there seems to be another answer,—something which indicates too that permanency and completeness of cure have been accomplished. The roué will look upon this as an unfortunate defect. It seems that a patient treated and cured by "606" may become reinfected with syphilis.

TYPHOID PERFORATIONS AND PERFORATIONS OF THE GALL BLADDER.

BY

GEORGE E. ARMSTRONG, M.D.

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Perforation of the intestine in typhoid fever demands our most careful study because of its frequency and danger. Physicians and surgeons are together bound to do their utmost to lower the high mortality-rate that obtains at present in this the most lethal of all the complications of typhoid.

Osler says that one out of every three deaths occurring during typhoid fever is due to perforation, and this estimate of its frequency is confirmed by the studies of the late J. Allan Scott. If the same percentage of deaths occurs in Canada as is estimated by Brown and Taylor to obtain in the United States, we have 1,875 deaths each year in our Dominion from typhoid perforation.

The locus is generally in the terminal two feet of the ileum, but, of course, it may occur at any part of the ileum, jejunum, large intestine, or appendix. The pathogenesis of typhoid perforation is well known. The coagulation necrosis of the lymphoid tissue opposite the mesenteric attachment, where the blood supply is poor, has been clearly described by many writers.

The problem before our profession is to lower the mortality rate; therefore, the first question is, What are the causes of the high death-rate in typhoid perforation?

1. The condition of the patient at the time of its occurrence. Towards the removal of this cause we can do little, although it adds greatly to the difficulties of recognition.

2. The difficulties in diagnosis. This is almost the whole question

at the present time. Once perforation has occurred, we may agree pretty well on the remedy to be applied and on most of the details of carrying that remedy into effect; but how to make the diagnosis—that is the question above all others in typhoid perforation.

To begin with, let us clear the ground of one or two erroneous ideas. We must not expect perforation of the intestine in typhoid to be announced by definite and distinct symptoms. So long as we look for the same abrupt onset that takes place when a stomach or appendix ruptures in a patient who is in full health at the time, and for symptoms that are unmistakable, so long we may go on as we have been doing, and make our diagnosis when it is too late to be of benefit to the patient.

My second point is that we must clearly appreciate the difference between perforation and peritonitis. The time has passed when we could say that perforation could only be recognized by the resulting peritonitis. A third-year student can diagnose peritonitis; the master should be able to diagnose perforation.

It is generally a good rule to doubt a diagnosis when the symptoms lack in harmony, but in typhoid perforation the absence of harmony is a diagnostic point in favour of perforation. The change for the worse in the patient is often out of all proportion to the abdominal symptoms. The first symptom is pain, and, as a rule, it comes on suddenly. Abdominal pain is the danger signal, and should always receive immediate attention. In rare cases the pain comes on gradually; this is the exception, however. It is commonly referred to the lower abdomen, often to the right side, but may be referred to the umbilical or epigastric regions. Tenderness is usually present, and at first is localized. The initial pain and localized tenderness are the most important indications of perforation, and should be considered and differentiated from the more widely diffused pain and more generalized tenderness that appear later, and indicate the presence of peritonitis.

Rigidity and muscle spasm are now to be looked for. Greater resistance of one rectus muscle is significant. The difficulty is that typhoid patients often complain of the abdominal pain, and are generally more or less tender in the right iliac region. A differential point is that the pain and tenderness of perforation are associated with an altered condition of the patient. The nurse or the friends generally notice that something has occurred. The expression is different. There may be a clammy perspiration. If the pain, tenderness, and rigidity are accompanied by nausea or vomiting, as is the case in a considerable percentage of cases, their importance as a diagnostic sign is greatly enhanced.

One should not conclude that there is no tenderness present without

a rectal examination. In some cases the perforated loop lies low down in the pelvis. The patient may then not complain much of pressure upon the abdomen, but forward pressure of the finger in the rectum will at once cause him to cry out. It is in these cases that complaint may be made of frequent and painful micturition.

Later on, when the infection of the peritoneum has become diffused, and peritonitis has developed, careful inspection may note lessened abdominal movement during respiration, particularly of the lower abdomen and in men. The absence of liver dullness is only of value when the abdomen is quite flat, and especially if its presence has been previously noted. Alteration in the pulse, temperature, and respiration may be confirmatory, but it is often remarkable how little they are disturbed. The blood pressure is sometimes increased. I have not found the presence or absence of leucocytosis a symptom upon which much reliance can be placed. It may be present without perforation and absent when perforation is present.

None of these symptoms are new. They are mentioned in all textbooks. The point is to be on the alert, and not allow them to pass unnoticed.

There were treated in the Montreal General Hospital from 1897 to May, 1910, 2,051 cases of typhoid fever. During this period there occurred 93 cases of perforation. In this series, then, perforation occurred in 4.53 per cent. of the cases. In addition, I operated upon three cases of typhoid perforation in another hospital and upon one case in a private house; of these four, three recovered. We have, then, 97 perforations, of which 78 were operated upon, and 24, or 39.76 per cent. recovered.

If we now examine the statistics for the various years, we find that the percentage of recoveries has steadily increased. During the year 1909 there were 16 perforations; 9 were operated upon, and 9, or 56.25 per cent., recovered. Our figures for the year 1909 and four months of 1910, or up to May last, are the best of all. During this period there were 22 perforations, 19 of which were operated upon, with 9, or 47.35 per cent., recoveries. In this series of 22 perforations there were two very promising cases lost, apparently, by delay in obtaining consent after the perforation was diagnosed.

Annual deaths in Canada from typhoid fever....	1,875
Montreal General Hospital, 1897 to May 1910:	
Cases of typhoid	2,051
Cases of typhoid with perforation	93 (4.5%)

Cases of perforation in Montreal General Hospital	93
Author's cases outside hospital	4
	—
Total cases of perforation	97
Cases submitted to operation	78
Cases not operated on	19
Recoveries after operation	24
Percentage of recovery (24 out of 78)	30.7

Recent Results.

Perforations, January 1st, 1909, to May, 1910	22
Submitted to operation	19
Recoveries	9
Percentage recovery (9 out of 19)	47.3

Type of Fever in Which Perforation Occurred.

Severe	50
Moderately Severe	20
Mild	1
Ambulatory	6
Type not described	16
	—
	93
Associated with severe hæmorrhage	25
Multiple perforation—6 cases (per cent.)	7.7
Secondary operation for secondary perforation in 4 cases	
Recovery	1

The increased percentage of recoveries is, no doubt, in part due to the character of the epidemic, but chiefly to earlier diagnosis and earlier closure of the opening. The earlier diagnosis has been due largely to the development of the idea among the resident hospital staff that it is a serious reflection on their skill and professional attainments to fail to recognize a typhoid perforation, no matter how slow and chronic may be its appearance. The final step towards lessening the mortality-rate in typhoid perforation is the recognition by every one of us that it is a serious and humiliating oversight to fail to recognize a perforation when it occurs.

The difficulties are greatly increased by the dull and apathetic state so common in typhoid, but these difficulties should only stimulate us to greater watchfulness.

I think it may be said that the diagnosis is, in many cases, to a certain degree uncertain. For this reason, in all cases in which we think a perforation is present, but where there is a reasonable doubt, an exploratory incision is to be recommended. I have twice opened the abdomen without finding any perforation. So far as I could observe, no harm resulted. This exploratory incision, undertaken after due and careful consideration, may sometimes save a life.

While it is quite true that the earlier the perforation is closed the more limited is the infection and the better the prognosis, yet some of our cases have been operated upon and have recovered when the condition, because of delay and advanced peritonitis, has seemed almost hopeless. Our experience in these cases would indicate that we are not justified in withholding the only chance there is unless they are really in *extremis*.

It may be said, I think, that if perforation occurs into the free peritoneal cavity the patient cannot recover unless the opening is closed. The only perforations that do not prove fatal unless closed by the surgeon are those occurring in the large bowel and between the layers of the mesentery. It has been demonstrated at the operating table that a small perforation in the small intestine may be temporarily closed by omentum, but that such cases would have recovered if they had been left alone is open to very serious doubt.

I have opened one abscess in the loin—post-typhoid—that seemed clearly to have been secondary to typhoid perforation of the colon.

If now we analyze our cases we find that perforation is more common in the severe forms of typhoid. Fifty of the perforations have occurred in cases described as severe, twenty in moderately severe cases, and one in a mild case. Six perforations occurred in ambulatory cases, and in one of these it seemed highly probable that perforation had occurred sixty hours before admission to the hospital. Strange to say, this man recovered.

Of the 97 cases in which perforation occurred, only 78 were submitted to operation. Nineteen cases were not operated on for various reasons, the chief being failure to obtain consent from the patient, parents or guardians, the desperate condition of the patient, and non-recognition of the lesion.

In several instances the patient's chances have been lessened by the delay in getting consent. One conspicuous example was a man, a patient in the Typhoid Emergency Hospital. The perforation was promptly recognized, and the patient sent to the Montreal General Hospital. He then refused operation, and insisted upon being removed to his home in a distant part of the city. At his home better counsels pre-

ailed, and he was brought back to the hospital. Two long rides in the ambulance and a delay of twelve hours changed an early promising case into an all but hopeless one. These delays from failure to obtain consent are of too frequent occurrence, one reason probably being that we do not promise enough, and one of my objects in this paper is to show that our extreme pessimism is wrong, unscientific, and not sustained by our later experience. Surely, if 50 per cent. of these desperate and otherwise hopeless cases can be saved, our pessimism should give way to a good, vigorous optimism.

Twenty-six of our cases of perforation were associated with hæmorrhage. Among these are not included instances of small blood-stained stools but only those cases in which the quantity of blood lost amounted to several ounces. As a class they are unfavourable. Three of them, however, recovered.

In six cases, or 7.7 per cent., more than one perforation was found at the time of operation. The perforations were generally not far removed from each other.

In four cases a secondary operation was undertaken for second perforation. One of these recovered. In two, recovery would have followed the second operation had not a third perforation occurred—in one case seven days after the second operation. In one case two operations were performed. At the first operation one perforation was closed. At the second operation two perforations were closed. The child finally died, and at the autopsy the lower two feet of the ileum were necrotic, twelve perforations being counted.

Hæmorrhage and perforation occurring subsequent to the operation for closure must be placed among the causes contributing to the high death-rate. Can they be prevented?

This raises one of the questions of technique. Is it enough to simply close the perforation found? What other procedure may be adopted?

It has been my practice to close the opening in the simplest way, that is, by one or two sutures through all coats, and a row of Lembert sutures placed transversely at right angles to the long axis of the bowel. I then infold in a similar manner with a row of Lembert sutures all the ulcers found to have a thin, suspicious, necrotic-looking base. Two alternatives suggest themselves, and have been carried out in a few of our cases. In two the suspicious portion of gut was resected with end-to-end anastomosis. They both died. In two the suspicious-looking gut was delivered, and cared for outside. The gut was wrapped in gauze, and allowed to rest on the abdominal wall. These two, after doing well for a time, eventually succumbed, one of them from pneumonia.

Resection should probably be reserved for special cases in which the

danger of further perforations over a considerable section of intestines seems imminent, and the patient's general condition warrants undertaking an operation that requires a little more time and a little more shock. I have not seen a report of any series of cases treated by resection, but I am under the impression, from conversations held with surgeons, that resections in typhoid perforations have not been followed by any improvement in the mortality-rate. I believe, however, that it should be carried out under favourable circumstances and in selected cases.

The variety of anæsthesia to be employed is a question of more than passing interest.

We will all, I think, agree that all preparations, including the wash-up, should be done before any general anæsthesia is used.

Local anæsthesia possesses many advantages, and should be used whenever possible. In the case of foreigners who cannot understand our language, and in children, it is difficult, but it undoubtedly should be the method of choice. I must say, however, that most of my cases have been operated upon under general anæsthesia, and I cannot say that I have seen much harm from it. On the contrary, these cases are almost all surprisingly well during the ensuing twenty-four or forty-eight hours. If the patients are vomiting, this is a very forcible reason for using local anæsthesia, as we thus lessen the danger of an aspiration pneumonia.

There is one point to be remembered when operating for typhoid perforation under local anæsthesia, and that is, that when the abdomen is opened there may not at first seem to be any indication that a perforation has occurred. No gas or fluids may escape, and, so far as can be seen through a small incision, the peritoneum and intestine may present a nearly normal appearance. This occurred to me on one occasion. The symptoms in this case had been unusually well defined, and that there was a perforation seemed almost beyond question. On pulling up the lower end of the ileum the patient complained so loudly that I gave a little ether. Then, when the ileum was finally delivered, a small perforation was found nicely closed by adherent omentum. If this had been overlooked, doubtless a leakage and peritonitis would have followed soon afterwards.

The subject is one of great interest. The death-rate must necessarily remain high, but watchfulness, exploratory incisions in doubtful cases, and prompt closure should save a goodly number of typhoid perforations.

I take this opportunity to report a case of typhoid perforation of the gall bladder.

The patient was a little girl 10 years of age, referred to me by Dr. Molson. The typhoid had been of moderate severity. At the end of

the third week, after three days of normal temperature, she complained of pain in the right hypochondrium. The following day an ovoid swelling appeared in the situation of the gall bladder. It felt as large as a turkey's egg, was exquisitely tender, and moved up and down during respiration. It was accompanied by a rise of temperature and acceleration of pulse. Under local applications the tumour became less tender and perhaps a little smaller. There was no jaundice. On the fourth day of the tumour another accession of pain decided me to operate. I opened directly into an abscess cavity, and in the abscess lay the gall bladder perforated in three places. The walls were everywhere necrotic. There were no stones. I did a cholecystectomy, and the little girl made a smooth and uneventful recovery.

The following is the report of Dr. Wolbach, pathologist in chief to the hospital.

The specimen is a slightly enlarged, thin-walled gall bladder 10 by 4.5 cm. in its greatest diameters. The outer surface is much congested and presents numerous yellowish raised areas, in a few of which there are perforations extending through the wall. The mucosa is dark red, and contains, in addition to the perforations, many ulcers, 0.1 to 0.5 cm. in diameter. The large ulcers have yellow necrotic bases with undetermined edges. The thickened floor and the surrounding puriform infiltration of these ulcers produce the swelling noted on the external surface of the gall bladder.

Incision through the serous coat into the wall of the gall bladder in the neighbourhood of the perforations and ulcerations shows extensive oedema and puriform infiltration into the surrounding tissues.

Microscopic Examination.

The epithelium of the mucous membrane is nearly wholly absent; a few islands of epithelium represent deeper parts of folds in the mucosa. The line of the basement membrane is everywhere intact, except over the ulcers; so that the general loss of epithelium is probably post-operative. Throughout the sections examined there are evidences of oedema and many small areas of hæmorrhage.

In thickened parts of the wall there is marked infiltration with lymphoid and plasma cells, and large mononuclear cells, many of which are finely vacuolated (compound granular cells).

Young connective tissue cells are present throughout the sections where there is oedema. The large mononuclear cells (endothelial cells) are occasionally grouped in large numbers about vessels, in lymphatics, and in areas of hæmorrhage.

The above changes are most marked in the outer half of the gall-bladder wall—that is, subserous tissues and the elevated areas noted in

the gross specimen are due to necrotic areas in this region, surrounded by granulation tissue. Near one large necrotic area there is a large vein with an early organized and canalized thrombus.

In the areas of surrounding necrotic tissue there are many polymorphonuclear leucocytes, but even here the number is not greatly in excess of the large mononuclear cells.

A few short bacilli are present in necrotic areas (methylene blue stain). No bacteria can be found.

The blood vessels everywhere are engorged, but there is no evidence of recent thrombus formation.

SUMMARY.

Necrosis of gall-bladder wall following marked infiltration of the outer half with lymphoid, plasma, and endothelial cells, in which respect it differs from an ordinary suppurative process. The extensive edema is possibly due to thrombosis of vessels, though only a single organized thrombus could be found. The character of the cellular reaction supports the theory of a direct infection of the gall-bladder wall by the typhoid bacillus as against pyogenic infection, or infection secondary to a cholecystitis.

The only demonstrable bacteria in the lesions are bacilli consistent in morphology with the typhoid bacillus.

The route of infection could be either through the blood stream or through lymphatics from infected lymph nodes which may be incorporated in the wall of the gall-bladder.

DOUBLE RADICAL FRONTAL SINUS AND ANTRUM OPERATION.

BY

E. HAMILTON WHITE, M.D.

Read before the Montreal Medico-Chirurgical Society, November 18th, 1910.

The case which I show to-night was first seen in February, 1910, and gave a history of discharge from the nose and obstructed breathing for two years. A rather remarkable feature of the case was the apparent indifference of the patient to the symptoms. He had sought no relief from his nasal condition. There had been occasional headaches, but more often a dull, heavy feeling in the frontal region. He had some pain in the upper jaw, for which he consulted a dentist who saw the pus streaming into his pharynx, and urged him to have the condition attended to. The case, which proved to be a pansinusitis, was first treated conservatively by washing out the cavities, and incidentally the septum was resected submucously, as it completely obstructed the left

side of the nose in its upper part. Irrigation of the sinuses was kept up till June 17th, without any perceptible diminution in the discharge, —though headache or pain in the cheek was now absent.

The skiagrams show very well the shape and extent of the sinuses which are unusually large. Such plates are not only a valuable aid to diagnosis, but are most important in determining the type of operation best suited to the case. One of the plates, the lateral view, shows the anterior wall of the frontal sinus and the inner table or posterior wall, with a distance of almost an inch between them, representing the depth of the sinus which is much increased by the bulging of the anterior wall. In such a case, should the Killian operation have been undertaken, a very extreme deformity would have followed from the removal of the anterior wall resulting in depression of the forehead.

It was decided to leave the front wall and simply remove the floor, and, on June 17th, one side was operated on, and the second side done about a month later. Shock was severe after the first operation, but slight after the second. Although I was uncertain as to the result, the danger being that one may get pockets formed by the granulation tissue and retained pus in the upper part of the cavity, it has been very satisfactory from an internal as well as external point of view. The discharge has stopped almost entirely, though there is still some suppuration going on in the right side. It is, however, slight in amount and forms a crust rather than discharge.

The patient says his head feels much better and he has lost the heavy feeling. On enquiring as to the number of handkerchiefs used, he stated that before the operation he required four or five daily. At present, he states, that one satisfies his needs for a week, a statement which perhaps throws some light on his indifference to his nasal condition before operation.

H. S. Birkett, M.D., in discussing the case said: I think this case follows very opportunely on the work of our last meeting, first of all, demonstrating the practical value of radiography as applied to diseases of the accessory sinuses. Had one undertaken this operation in the usual way, without first having had both an antero-posterior and lateral radiogram taken, the results certainly would not have been as gratifying as they are at the present time. The occurrence of bilateral sinusitis is unusual, and further, it demonstrates to us that this extensive operation may be done with very little disfigurement. The adoption of Killian's method of operation is followed in both cases by such disfigurement as to cause the patient a good deal of mental discomfort. Dr. White has shown a great deal of judgement in having adopted the removal of the floor of the sinus rather than the anterior wall.

A. CASE OF MILIARY TUBERCULOSIS OF THE CHORIOID.

BY

GEO. H. MATHEWSON, M.D., Montreal.

Read at Meeting of Montreal Medico-Chirurgical Society, December 3rd, 1910.

In February, 1907, I published in the MONTREAL MEDICAL JOURNAL, two cases of miliary tuberculosis of the chorioid.

In one of those cases the result of the ophthalmoscopic examination confirmed the diagnosis of general miliary tubercle which had been strongly suspected by the clinician, but in the other case the clinician was entirely at a loss as regarded the etiology of the general symptoms until the results of the ophthalmoscopic examination were made known to him. In the third case, which I will report briefly, the diagnosis was also made on the results of the fundus examination.

On September 28th, 1908, W. V., a male infant, aged 17 months, was admitted to the wards of the Montreal General Hospital on account of paralysis of the right arm and leg. The child, according to the mother's report, had been quite well until five days previously, when he began to be feverish and had diarrhoea, and later had convulsive attacks, but did not lose consciousness during these attacks. The paralysis developed on September 27th.

On admission the child was found to have hemiplegia and looked very ill, though well nourished. The lungs were clear on percussion and auscultation, though the respirations were quick and shallow. Circulatory system normal. There was diarrhoea, and the tongue was dirty. Temperature 100-103.

September 30th.—Condition very bad. The child was stuporose. Lumbar puncture was made, and the fluid obtained was clear. No tubercle bacilli could be found in the fluid. On this day I made an examination of the fundi and found the chorioid in each eye to be studded with many tiny tubercles.

The child died at 1 a.m. on October 1st. Post mortem examination showed widespread tuberculosis involving both chorioids, meninges, pleurae and peritoneum.

FOUR UNUSUAL CASES OF ALBUMINURIC RETINITIS.

The cases which I am going to report are not remarkable because of anything peculiar in the nature of the ocular symptoms, but on account of something out of the ordinary in the individual affected.

The first case is of interest chiefly because of the extreme youth of the patient, who was only six years old.

The boy was admitted to the General Hospital on June 21st, 1909, under Dr. Blackader, through whose kindness I had the opportunity of studying the case. The history was as follows:—

O. S., a boy, six years of age, who had not had any of the ordinary diseases of childhood, had enjoyed good health until 5 months before his admission to the Hospital, when he began to complain of headache. The pain was chiefly frontal, was intermittent and worse at night. Two months after the onset of the headache he began to have attacks of vomiting, which became more frequent as time went on. The parents noticed at this time that the boy's eyelids were puffy. On the morning of his admission to the hospital he had a convulsive seizure which lasted $1\frac{1}{2}$ hours. The urine was acid, its specific gravity 1018, with pus cells and albumin, but no casts.

On June 22nd I examined the fundi and found typical albuminuric retinitis in both eyes. This finding was of distinct value in excluding cerebral neoplasm. This is the earliest age at which I have observed the condition, and one of the earliest on record. C. S. Bull saw a case in a child of five years, while Anderson records one in a girl of nine; Lawson, one in a girl of twelve, and Holmes Spicer, one in a boy of ten. In 1900 I saw one in a boy of thirteen.

The second case is peculiar, in that it was seen in a woman after the birth of her child. Albuminuric retinitis is frequently seen during pregnancy, but this is the first case I ever saw occurring post partem. Mrs. P., 38 years of age, came to my clinic at the General Hospital on September 10th, 1909, complaining of poor vision. On examination it was seen that she had albuminuric retinitis in both eyes, with exudate hæmorrhages and typical stellate figure in the macular region. The urine was found to contain albumen and casts. Her vision was R.E.=6/18, L.E. 6/60. She gave the following history: Three weeks previous to her coming to the clinic she was delivered of a 7 months' child, which was dead in utero. During the pregnancy she had had no unusual symptoms, nor had she had any trouble with her eyes until the fourth day after her confinement, when she found on trying to read a book that she could not see the print. She had been married eleven years and had had three previous pregnancies, and the children are all living and healthy. The condition cleared up rapidly. While it is impossible to be sure that the retinal changes were not present during some part of her pregnancy, it is very likely they only appeared after delivery. At any rate there were no subjective symptoms until that time.

The next two cases are worthy of note because of the youth of the patients, but more especially from the fact that they were brothers.

On April 22nd, 1908, G. C., a young man, aged 19 years, was sent to

my clinic at the General Hospital on account of headache. On examining his fundi I found he had typical albuminuric retinitis in each eye. The urine was found to contain both albumen and casts. Six months later he died of pleurisy.

On January 6th, 1909, T. C., a boy of 17 years of age, and brother of the above mentioned, G. C., was sent to me by the physician who had sent the older brother, with the report that there were casts and albumen in his urine, and a request that I should examine his fundi. Here, again, I found typical albuminuric retinitis, although the vision was good. R.V.=6/6, L.V.=6/6.

On March 3rd, 1909, about two months later, the vision was reduced to ability to count fingers at four feet with each eye.

Both brothers had scarlatina, chicken pox, and measles in early childhood, and the younger one had pneumonia at the age of eleven. The mother stated that the scarlatina was so mild in character that a doctor was not called in.

THE

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

EDITED BY

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INFORMATION FOR READERS.

With the present issue the MONTREAL MEDICAL JOURNAL will cease publication. It has been acquired by the Canadian Medical Association. On January 1st, 1911, "The Canadian Medical Journal" will be issued as the official organ of the Association. For the past twenty-two years, and for a long time before that, under other names, the MONTREAL MEDICAL JOURNAL has endeavoured to present a true picture of medicine in Montreal, especially as it has been represented by McGill University. But the editorial board and the shareholders have arrived at the conclusion that something more elaborate should be attempted, namely, to present Canadian medicine as a coherent whole.

Accordingly, the profession in Montreal has transferred its journal to the Association, and along with it goes to the larger body a tradition which has existed, and grown, for nearly seventy years. The Association also receives the support of a large and important medical faculty, whose sole object is to further the science and art of medicine for the general good, and not for the advancement of local or individual interests.

For convenience of reference we set forth the ancestry and history of the MONTREAL MEDICAL JOURNAL in tabular form:

THE MONTREAL MEDICAL GAZETTE, Being a Monthly Journal of Medicine and the Collateral Sciences. Edited by Francis Badgley, M.D., and Wm. Sutherland, M.D. Vol. 1, 1844-45.

- THE BRITISH AMERICAN JOURNAL OF MEDICAL AND PHYSICAL SCIENCE.
 Edited by Archibald Hall, M.D., and R. L. Macdonnell,
 M.D..... Vol. 1, 1845-46.
- THE BRITISH AMERICAN MEDICAL AND PHYSICAL SCIENCE JOURNAL.
 Edited by Archibald Hall, M.D..... New Series, Vol. 6,
 Nos. 1-9, and Vol. 7, May, 1851 to January, 1852.
- THE BRITISH-AMERICAN JOURNAL, Devoted to the Advancement of the
 Medical and Physical Sciences in the British-American Prov-
 inces. Edited by Dr. Hall..... Vol. 1-3, 1860-63.
- THE CANADA MEDICAL JOURNAL AND MONTHLY RECORD. Edited by
 Robert L. Macdonnell, M.D., and A. H. David, M.D.
 Vol. 1, 1852-53.
- THE MEDICAL CHRONICLE OR MONTREAL MEDICAL JOURNAL OF MEDI-
 CINE AND SURGERY. Edited by William Wright, M.D., and
 D. C. MacCallum, M.D..... Vols. 1-6, 1853-59.
- THE CANADA MEDICAL JOURNAL AND MONTHLY RECORD OF MEDICAL
 AND SURGICAL SCIENCE. Edited by George E. Fenwick, M.D.,
 and Francis Wayland Campbell, M.D..... Vols. 1-8, 1865-1872.
- THE CANADA MEDICAL AND SURGICAL JOURNAL. Edited by George E.
 Fenwick, M.D..... Vols. 1-16, 1872-1888.
 With Vol. 8, there was a change of editors, Dr. George Ross and
 Dr. A. Molson being in charge. Vol. 11, Dr. Roddick editor in
 place of Dr. Molson. Vol. 14, the name of Dr. James Stewart
 was added to the Editorial Board.
- MONTREAL MEDICAL JOURNAL:..... Vol. 17-39, 1888-1910.
 Vol. 24, 1895-6, editorial staff consisted of Drs. T. G. Roddick,
 James Stewart, A. D. Blackader, George E. Armstrong, J. G.
 Adami, R. C. Kirkpatrick.
 Vol. 27, 1898, Dr. G. G. Campbell was added to replace Dr. R. C.
 Kirkpatrick.
 Vol. 28, 1899, Drs. William Gardner, F. G. Finley, Frank Buller,
 and H. A. Lafleur were added.
 Vol. 31, 1902, Dr. F. J. Shepherd added.
 Vol. 32, 1903, Dr. Andrew Macphail became managing-editor.
 Vol. 39, 1910, Transferred to Canadian Medical Association.

Word has been received of the death of Dr. Harold Bertram Marchant, of Victoria, B.C. Dr. Marchant was a graduate of the Class of 1910 of McGill University, and during his undergraduate career took a first-class place in all his examinations. He was a popular student, and served on the staffs of many committees and student organizations. After graduation he was appointed to the out-door staff of the Montreal

General Hospital. He returned to his home in September, and after passing a brilliant examination before the British Columbia Medical Board was appointed surgeon to the company at Britannia Mines. It was while on his way to the mines by the overhead tramway that he was caught in the machinery and his skull fractured. He was brought to the Vancouver General Hospital, but died on the following day, Thursday, November 17th, without regaining consciousness. Dr. Marchant was 28 years of age and unmarried.

In the article upon "The Uses of the X-rays in Surgery," in the November number of this JOURNAL, by W. A. Wilkins, M.D., the author is made to say, "Congenital anomalies such as cervical rib, spina bifida, fractures and dislocations are generally a condition frequently mistaken for "sprained back." This should read as follows: "Congenital anomalies, (such as cervical rib and spina bifida), fractures and dislocations are generally made out, an important fracture being that of the transverse process, a condition frequently mistaken for "sprained back."

BABU BABBLINGS FROM BANKIPUR.

There is a man entitled Babu Ram Krishna Lal, who is apparently quill-driving in the Commissioners' Court in Patna, who knows all there is to be known about plague, and who casts out on the world three pamphlets, which have recently come to us, entitled: "The Pathogeny of Plague," "The Symptomatology of Plague," and "The Therapeutics of Plague."

Before giving to Canadian readers any of the valued secrets therein contained, we must express our regret that we have not yet obtained one other book which the author advertises in the following phrase: "The World Plague Penal Code." "It is in rhymic verses. It is a very humorous, interesting and instructive book. It will be printed within five months." He frankly states that he considers that medical men may read his works with suspicion, because they are the "outcomes" of a "non-professional man." But he naively says that "for full instruction of the plague matters a man ought to read all my books relating to them; for, they are scattered here and there, that is, at their proper places." In all of which Babu Lal, who is also known sometimes as Ram, probably speaks more truth than he thinks.

As we face "The Symptomatology of Plague," we have to wade through a considerable amount of print which does not convey much to us, inasmuch as, side by side, he prints English, Arabic, Persian, Sanskrit and Eindu, the general effect being a glorified edition of one of those much-beloved Kelly's Keys to the Classics, that we used to love. But we can

gather this much, that a bacillus is so "micron that he cannot be seen without a microscope. It is oval, and is of a white, red, blue, black, yellowish or greenish colour, or iridescent." It must be a terrible thing to be an Indian child in these days, because, doubtless, Ram can at all times quiet his small flock, not with tales of dragons and bears, but of bacilli, for he says "the bacillus has the functions of creeping, sticking and biting." More, this terrible beast finds that the things most suitable, agreeable and wholesome to it are "stink, narrowness, dimness, darkness, unventilation." He recognizes that the following elements are hurtful to bacilli: "Width, dryness and ventilation," and his anti-bacterial *piece de resistance* is "odour," by which he appears to mean perfume. It is not clear what particular brand of odour he makes use of, but if we judge from what he says, he must smell to heaven. He has noticed that the patients in the toxic stage show some such fatal signs as the following: "Indolence—the patient hates to toil and likes to lie down."

"Melancholy—the patient's face looks sorrowful. He seems like a fool."

"Lassitude—the patient feels his body and mind exhausted, without having done any work or labour."

Truly, this wrings the withers of most of us. If one might judge from these symptoms, the plague must have a wider distribution than we have previously supposed.

In his observations of the tongue, his description is "a treat o' richness." The furs on the tongue are calculated to make the Hudson's Bay Company purple with envy, for they are "white, red, blue, yellow or green." We think it is necessary to point out that when he refers to the wild delirium of the patient, he has no reference to the existence of intestinal parasites, although he states definitely that "the patient fights with his inniats."

Babu Lal's idea of bacteria is apparently something very fearful and wonderful, for if you wish to know how and in what parts of the human body the bacilli bite, read Proposition 25, which is reminiscent of the index of Gray's anatomy; and besides, one meets with some such terrible prognostications as this: "A burning pain on a part of an individual's body indicates the future appearance of a bubo." What an outlook for spanked offspring!

Conjunctivitis he finds generally "ejects the eye," whereas parotitis inflames "the auricular hall." Especially adapted to the use of writers of bogie books are his descriptions of the different bubos, of which the cervical is much fearful, the axillary less fearful, the popliteal a little fearful, while bubos of the outglard are evidently good fairies, for they

are not at all fearful. The "outglad" is not in our dictionary. To give an air of similitude to the whole thing there is a table, which consists of a list of the names of the swellings or bubos, prefaced by serial numbers and followed by percentage numbers. We defy the most carefully trained member of the Institute of Chartered Accountants to find any errors in this table, or, in fact, anything else.

There is a hopeful side to all this revelling in fearful signs and symptoms for susceptibility, or immunity, or both, can be acquired "by using, or not using flesh, or odour or both," (to a casual observer, this seems to include most of us!), and if you "observe properly the fur on the tongue, and know that this precedes the appearance of fever or bubo,"—though how you are to know it, heaven only can tell—"you can very easily recognize the plague and kill its germs without giving any trouble to its patient." This smacks strongly of the diagnostic methods of Christian Science, and even recalls the abortive treatment of typhoid fever. Babu Ganga breaks at times into verse, and one technical paragraph ends up with this beautiful couplet:

"Ah! the name, PLAGUE, is itself a fright;
How can I expect one, with him, will fight."

Truly, "breaks" is the correct term to express this change of pace.

Lal is not content with confining himself to plague, but he wanders into side paths, and talks of smallpox, which he says is the "poisonous effect of the natural absorption of the menses by the embryo and the foetus," the latter of which, he says, is the same as the embryo with a little difference. The foetus is known in Hindustani by some term which Babu Lal coyly abbreviates, as he says there is a great deal of obscenity in its full pronunciation. Our heartiest thanks, Ram!

Far be it from us to suggest that there is not a great deal of sense in this work, for the inhabitants of India are cautioned to use the following preventive measures:

1. Do not throw flesh into your house drain;
2. Do not throw flesh into the wells, the water of which you drink;
3. Do not deposit any dead body near the wells of the water of which you drink, but, too far, at least one mile from them. A mile is not any too far for us, thank you!

This true poet cannot subdue his liking for rhyming, for he breaks forth in song in the following stanza, which has not, perhaps, very much connexion with the subject in hand, but which has permitted the author to clear his mind of the very perfect rhyme which will be observed in the last two lines:

“ Ah! if a flesh is never to be eaten,
 And a dead body never to be hidden;
 There should be no epidemic disease;
 Thus all human race are to live with ease!”

We would gladly admit Babu's originality, but it was our privilege, some years ago, to be acquainted with one who lived in a Western Ontario town, who considered himself, after Tennyson's death, the Poet-laureate-elect of the British Empire. In his voluminous works, which were generally published in paper covers, and were religiously sent to, and as religiously acknowledged by, the secretary of the late Queen Victoria, we feel quite sure we have seen these last lines, and yet it may be that these two great minds have but followed the law of coincidence, when they lit upon the same great thought.

It is a pleasure in reading over the corrigenda of the book to find that on page 16, line 10, the author did not mean “grishahrishm,” but that his meaning was “grishmagrishmata,” a reading which, of course, indicates much more clearly his meaning. We confess that the reading “grishahrishm” had puzzled us greatly, but the correction renders the passage ridiculously easy. The book, he says, “passed through the press in my absence from Bankipur to Dinapur. I could not revise the proof sheets. The reader will pardon me for this negligence on my part.” We can only hope for Ram Lal's sake, that heaven will pardon him as freely as we do.

Certainly the part of this classic work most imbued with common sense is that which is devoted to the therapeutics of plague, and the provisions thereof show how the call was given to Ram Krishna Lal to come to the help of his dying compatriots. “Having heard,” says he, “that a bacillus is the cause of plague, and the house mouse is attacked with plague first of all, I believed that I should, in the like manner, die one day of this fatal pestilence.” The above two hearsay statements led him to believe that the treatment must be antidotal and antiseptical, and in evolving this treatment he never failed to keep the following facts in view:

1. The poor are generally attacked with plague.
2. No physician ever attended them.
3. No compounder is to make mixture either of the homœopathic or allopathic medicines for them.

We are scarcely able to understand how these two last are compatible with the heavy death rate lately prevalent in India, but considering that this is a distinct outrage upon the poor, the brave Krishna has discovered special medicines for plague, “which can easily be procured and

administered to all plague patients by all men, even by a fool, without any harm at any time." Krishna goes on to say that he has had before him as a guiding light, a certain proverb, hereinafter mentioned. Persevering in his study with what pecuniary loss, labour and risk to his life, he modestly refuses to say, he at last, by the grace of God, succeeded in it; then like the lark at heaven's gate, he bursts out into this canticle: "Now, I, with ecstasy of joy, publish its results herein, for the benefits of the public"—ending with one more of his poetical strains which embodies the belief which has been his ideal:

"Where is a will, there is a way,
Its all obstacles removes away;
All difficulties do subject,
Put off all veils of its object."

No, dear reader, the printer has followed the text slavishly. We can scarcely say how keenly we feel the lessened interest which has been taken in Browning's poetry for the last year or two, but if any Browning Society wishes to enter once more upon a severe mental struggle, we will be pleased to send them by private post, not only this, but certain other verses which appear at intervals in these pamphlets. Nay, further, we are willing even to institute a prize competition with the view of discovering some of the hidden beauties which underlie these verses; in some ways "Sordello" has no passage superior to it.

The therapeutics of plague, as outlined by the author, are, perhaps, sensibly enough, Condy's Fluid, first, last, and all the time. Condy's Fluid is to be administered externally, internally, by all possible inlets to the body, by baths, by dressings, by gargles. This treatment has been anticipated in the Western States, where the "divine fluid" is considered a sure cure for "snake bites, dog bites, Injin bites and human bites." When vomiting occurs, the remedy is to be persevered with until the stomach tolerates it or until the patient recovers or dies. We suspect that there is some underhand agreement in Krishna's therapeutics, because we are told to beware not to use any other preparation but "that of Mr. Condy only prepared in London in a glass corked phial." It would be mere trifling to suggest that, according to the composition of this passage, it is Mr. Condy who is going to be sold in the corked phial; perhaps the purchaser also. Who knows?

There is a touching directness about our friend Babu Lal, which comes to the surface in such words as these: "The specific bacillus bites a man as other insects, such as lice, etc., do." Let no carping critic pretend that he does not know how lice bite, for unless we can start upon a

common ground, we shall clearly get no farther, and Krishna evidently expects that this touch of nature will make us all akin. It is almost pathetic to picture the good man as he goes about disinfecting places suspected of infection. "I saturate some cowdung cakes with kerosine oil, burn them, roll them with a stick on the suspected grounds, specially the corners, holes, and dark places of a room." This, no doubt, is the way in which the Patna Fire Brigade is kept up to its work, for our disinfector even disinfects "sputa, vomits and faces by burning straw or hay around them." Then he remarks naively, "I do not touch them with my bare hand, but I remove them with some medium such as tongs, etc., otherwise they might attack me." Would that there were a sculptor who might give us a new Laocoon, not those magnificent men in the coils of the serpent, but the modern Krishna Lal with his tongs and their unsavory load which he holds at arms length, lest it attack him.

Finally, let us take to heart his last and one of his most important dogmas: "To immunise myself from plague I never use flesh, but ever use odour. If you wish the same do the same." Nothing could be plainer!

Like the careful householder, our best wine is kept to the last, and "The Pathogeny of Plague" is undoubtedly the gem of the collection. It is, as he says, an imitation of Euclid's Geometry, and is properly divided up into definitions, postulates, axioms and propositions, to which are added instructions and inferences.

His definitions have a jingle that is all their own; yet sometimes there is an Euclidean echo as in the following corollary: "If all other putrecible substances be given, each after each, to find a non-pathogenic bacillus in them, the result will be the same as above."

There is a distinctness about some of his definitions which makes them clear to the meanest intellect, as for example: "A house means a house inhabited by men." (By'r lady, we had thought he meant a dog-house!)

"A house drain means a drain of a house."

"The drain means a house drain."

"A house mouse means a mouse which inhabits a house."

"The mouse means a house mouse."

Samuel Johnson must have turned in his grave when the following definition was written: "Use, means to eat, drink, swallow, inhale or bathe with." But no one could quarrel with this: "Odour means that which emits a fragrant smell only from it."

A doubt crosses our minds as to the sex of the respected author; there is something feminine in his change of ground when he says: "Singular number may import plural number and *vice versa*."

"Masculine gender may import feminine gender and *vice versa*."

The postulates begin according to tradition: "Let it be granted that," and among the things to be granted are such keen pieces of zoological observation as this:

"A house mouse generally runs throughout a house drain." And again: "Flesh is generally thrown into a house drain."

(Not in our house!—Editor).

The axioms contain such oracular sentences as the following:

"A bacillus must naturally die after a certain prescribed period; but if it dies before it, it dies of a certain cause."

The greater part of this volume is devoted to the propositions, and the only way in which we can give any idea of the completeness of the work is to give a proposition in full:

"Proposition 4.—Theorem. A house mouse conducts the bacillus from the stink of a narrow, damp, dark and unventilated house drain to the interior parts of a house, specially to the corners and the dark places of it."

"It is already proved that the bacillus is found in the stink of a narrow, damp, dark and unventilated house drain. Prop. 3."

"A house mouse generally runs through a house drain. Postulate 4."

"When a house mouse so runs, the bacillus, getting its most tasteful meat, that is, the body of the mouse (Axiom 6) sticks on it (Definition 9)."

"The mouse, having the bacillus thus stuck on its body, runs about the interior parts of the house (Postulate 5)."

"The bacillus, being interrupted by its antivital elements, separates itself from the body of the mouse and creeps from place to place in search of its vital ones (Axiom 7) and nooks at an angular or dark place of the house. Postulate 6."

"Therefore, a house mouse conducts the bacillus from the stink of a narrow, damp, dark and unventilated house drain to the interior parts of a house, specially to the corners and the dark places of it." Q.E.D.

If Andrew Lang wants some new material for his studies in ghosts, let him go to India. We can imagine his locks upraised, as walking peacefully around the corner he comes upon some bacillus "nooking at an angular or dark place of the house;" and there is surely no more fearful beast than your nooking bacillus! We question whether he would carry his scepticism any farther.

There is a strain of morality coming occasionally to the surface amid these flowers of geometry; such is the following, which is given in italics, and does not appear at all relevant to what immediately precedes or

follows it: "But the flesh deviates us from our straight line to a great labyrinth." Can it be that Krishna Lal, like St. Paul, has his thorn?

For a piece of close reasoning, we question if the comparison in "proposition 8, theorem," has ever been surpassed: Proposition 8, theorem, is this:

"The bacillus germinates in the corpse of a person died of plague."

"The corpse is a putrecible substance. Axiom 2."

"When a corpse putrefies a bacillus germinates in it. Axiom 3."

"The bacillus is found in the stink of a narrow, damp, dark and unventilated house drain. Proposition 3."

(We shall not again reproduce Proposition 3 for the sake of our readers, who will, by this time, doubtless, know it perfectly.)

"The constitutional arrangement of the component parts of a corpse resembles to the structure of a house drain with its stink in it. Definition 21."

"For, if not, compare them.

"Comparison: (a) The mouth and the anus—the two extremities of a house drain; (b) The passage from the mouth to the anus—the passage of the house drain; (c) The intestinal parts—the narrowness, dampness, darkness and unventilation; and (d) Stomach—the stink of a house drain. Definition 21.

"Therefore the bacillus germinates in the corpse of a person died of plague." Q.E.D.

By reading such a proposition as this, one realizes from such a sentence as comparison (3), that the abstract and the concrete present no difficulties to Krishna Lal. But he has evidently a poor opinion of his stomach!

It is very necessary to call the attention of the Customs Department of England to Proposition 13 theorem, which states: "If an article polluted with flesh and infected by the bacillus, be closely shut up in a portmanteau, and be never, in its way, exposed to the sunshine for a sufficient time, the bacillus shall be transported from India to England."

The last phrase smacks both of contravention of the Alien Labour Law, and of a sentence delivered at the Old Bailey. But, instead of a prayer for mercy upon its soul, the end is as usual, Q.E.D.

His instruction following this proposition, is, that "the travellers open their luggages and expose the articles therein to a clear sunshine for at least 24 hours." We can imagine the appearance of the Customs House at Dover, on a busy day, as the glad travellers wait until they have found 24 hours of English sunshine for their "luggages."

A little further on, there are instructions as to "isolating our house before it is infected by the bacillus." And the following sentence gives directions how to "insulate the house." The Bankipur Light, Heat and Power Company is not even allowed to tender.

"Proposition 15, theorem," has a Teutonic touch in "an English-fashion-built-bungalow;" but Krishna's pathology is not up-to-date, as in Proposition 24, theorem, he states that "the birds of the air are not attacked with plague." And the instruction to this doubtful proposition is given in the author's favorite mode of expression verse:

"Live like a bird when plague prevails;
A skilled doctor, to cure it, fails."

A suspicion arises that the Indian bacilli are given to round-about routes, for we find that "whenever a bacillus creeps into the stomach by the alimentary canal and bites it, the gastritis is found," and a further remarkable statement is made that "Whenever the bacillus gets into the lungs with drink or food and bites them, the pneumonitis occurs." It is now pretty well understood, by even the laity, that any one who does take the drink and food into the lungs may have trouble. Babu Lal's final note to these statements is: "Were I an anatomist, I would have written more on the subject."

We feel quite sure that with this great mass of postulates, axioms, and propositions, and so on, as a groundwork, we could go on manufacturing more propositions as long as our Government pay lasted, and we fear that this is the author's intention.

Reviews and Notices of Books.

PHYSICAL DIAGNOSIS. By RICHARD C. CABOT, M.D., Assistant Professor of Medicine in Harvard University. Fourth Edition, revised and enlarged; with five plates, and two hundred and forty figures in the text. New York: William Wood and Company, 1909.

The fourth edition of this popular book, which appears four years after the first edition, contains some few amendments and alterations. We need scarcely repeat that we find Dr. Cabot's book one of the most useful of the smaller works on practical diagnosis.

Retrospect of Current Literature.

MEDICINE.

UNDER THE CHARGE OF DRs. FINLEY, LAFLEUR, HAMILTON, AND HOWARD.

Typhoid Bacillus Carriers.

After referring to a former paper (*The Journal A. M. A.*, October 16, 1909, p. 1253), in which he had discussed and explained typhoid immunity, W. J. Stone, Toledo, Ohio (*Journal A. M. A.*, November 12), remarks that one of the most interesting problems of typhoid at the present time is that of typhoid carriers. Nearly all these individuals are not seriously inconvenienced themselves by the presence of the infective agent in their system, and this is true of those who have become carriers through contact with the disease—contact carriers—who have not themselves had knowledge of having typhoid. Their tolerance is probably explainable by a natural immunity or by partial immunity from an earlier unrecognized typhoid infection. It is not illogical to assume that their immunity is due to those antitropic substances concerned in active phagocytosis, while lowered antibacterial substances, such as the bacteriolysins and bactericidins, permit the infection to exist for years without eradication of the bacteria. In most instances, typhoid carriers have been discovered in hitherto unexplainable endemic outbreaks. A large number have been women, who have in some way been connected with the preparation of the handling of food products. The time since the original attack has varied in the recorded cases from one to fifty-four years. The difficulty of differentiating carriers of typhoid and of other closely related bacteria, like the colon bacillus, is noted, and Stone mentions two patients under his care at present who had been considered typhoid carriers, but have since shown doubtful symptoms. He thinks, however, that one may differentiate these cases by the local reaction to autogenous vaccines. The colon vaccine is much more toxic than typhoid vaccine, though occasionally we meet with a mild strain. The typhoid-carrier problem is a perplexing one, complicating the conditions, especially in cities. It will be possible, however, for physicians to educate their patients and keep in mind the typhoid attack in connexion with certain symptoms like mild cystitis or dysentery. Segregation of chronic carriers is practically impossible, and a considerable percentage of those attending typhoid cases may themselves become carriers without knowing that they have the disease. Park has estimated that probably one in every 500 adults who have never knowingly had typhoid is a typhoid bacillus-carrier. Urinary and intestinal antiseptics

has not been found of value in treating these cases, but treatment by autogenous and stock bacterial vaccines seems to offer more chance of success. As has been shown by the author's previous paper, the bactericidal substances are increased four or five-fold by inoculations of typhoid vaccine. While a stock vaccine is efficient, it is probably better to use an autogenous one, and Stone reports a case treated in this way with good result. A survey of the literature, he says, citing typhoid carriers treated by bacterial inoculation, though not extensive, seems to warrant the following conclusions: "1. The time element is an important factor in the reaction of susceptibility to inoculations of bacterial vaccines in typhoid carriers. Typhoid carriers injected within a comparatively short time after their infection, will in all probability receive more benefit from properly prepared autogenous vaccine than from any other known form of treatment. 2. 'Contact carriers,' who never to their knowledge have had typhoid, are more susceptible to the inoculations than carriers who have had a definite attack of this disease, and who are in all probability more immune. 3. When the infection has persisted for years, it may be difficult to clear up the condition by bacterial inoculation. The effort should at least be made, since in the somewhat similar condition chronic carriers of apparently non-virulent tubercle bacilli, the bacilli often disappear from the sputum during a course of inoculations of some one of the tubercle products. 4. The immunity manifested by typhoid carriers is in all probability a partial immunity, in the sense that while these individuals are protected against the infection through an augmented phagocytic power held by their body cells, the antibacterial substances, such as the bactericidins and lysins, are lessened to a degree insufficient to exert any destructive power against the infection."

Work of the Council on Pharmacy and Chemistry.

D. L. EDSALL, Philadelphia (*Journal A. M. A.*, November 12), describes the work of the Council on Pharmacy and Chemistry, and speaks of its magnitude and of the cordial support given to it by the better part of the profession. The first rules adopted by the Council were found to be not rigid enough, but this was due to the caution which was necessary in the beginning of the undertaking. As soon as it was apparent that the profession demanded the exclusion of preparations of unscientific composition, improperly named or otherwise objectionable, the line was drawn a little stricter, though this necessarily involved much more work. In the beginning the Council devoted itself to the consideration of proprietary drugs alone, but it has gone far beyond this class in the investigation of all substances that are widely used medicinally or have any claims to medical value, but are not in the U. S. P.,

so that it could give an authoritative statement of their composition, uses, etc., which could not be obtained otherwise. The preparation of the publications, "New and Nonofficial Remedies" and "The Propaganda for Reform in Proprietary Medicines," involved a large amount of chemical investigation, and the regular work of the Council from week to week is no child's play. Each preparation as it comes up is carefully considered in all respects, as well as the methods of its advertisement, and if objectionable features appear they are brought to the attention of the manufacturer and an opportunity given him to conform to the rules. A report is first made by an individual member of the Council, then it is referred to a committee, and finally to the whole Council. Investigations that call for much time and labour are often repeatedly gone over by members of the Council in order to furnish the profession with the real facts and to eliminate all sources of error. As a result, excluding the evil preparations, we have a mine of information which could not be obtained elsewhere in the 250-page book, "New and Nonofficial Remedies," which was never before so freely given to the profession. As for the substances which are not so included, the utility of the work is obvious. Edsall says, for example, that within a few hours of his writing this paper, he had to answer three questions which could not have been done before, coming from non-medical professional men regarding certain proprietary articles. Many articles are simply not mentioned in the books, and this means either that they are useless or unscientific or harmful, or that they are exploited by unworthy methods. The Council has been asked why it does not publish a list of all articles rejected, but this it cannot legally do, and really a list of those that will conform to reasonable rules is what is actually required. He notices some criticisms that have been made and answers the objections. Realizing the exigencies of trade, the Council attempts to be as mild as possible in regard to matters that are open to judgement, but it cannot leave the decision of such things entirely to the manufacturer. Two gratifying results of the work are noticed in conclusion: One is the disappearance of the lecturing type of detail man. The other is the building up of healthy skepticism in the profession in place of the former credulity to the statements of interested parties. An interested person cannot usually, even if he would, give fair and judicial information, and the Council looks forward to a time near at hand when it can proceed to put all these matters squarely on a scientific footing and can advance to a point where it can reduce subserviency to the methods of any manufacturer, to commercial expediency, or to trade conditions in any way, down to the lowest point humanly practicable.

Tuberculides.

In a joint paper (*Journal A. M. A.*, November 12), J. S. LEOPOLD, New York, and I. ROSENSTERN, Berlin, Germany, call attention to a special point in the diagnosis of tuberculosis in children. It has become evident of late years that this disease is more frequent in infancy than was formerly supposed. The various tuberculin reactions have greatly aided in determining this fact, and a positive tuberculin reaction in infancy generally means an active tuberculous coccus. Before we use the tuberculin reaction, however, some suspicion of tuberculosis has usually to exist, and it is a peculiarity of infancy that most of the premonitory signs are lacking and, when the typical symptom-complex appears, the case is practically hopeless. The various skin-lesions are of the greatest value in the diagnosis, namely the so-called actual tuberculous lesion, lupus, scrofuloderma, and tuberculosis varicosa cutis. These are, however, rare in infancy. More common and therefore of greater value are the so-called tuberculides and one class of these plays an especially important rôle in infants. The authors have been giving special attention to these for ten months, using the abundant material of the Kinderasyl of Berlin. The purpose of their paper is to show how valuable this lesion, as yet unrecognized by most observers, is in the diagnosis of tuberculosis in children. The tuberculides consist of slightly raised rounded papules varying in size from a pin head to a millet seed. At first they are of a red colour but later become brownish and show a scale or crust in the centre. When scratched away they leave behind a rounded depression which does not bleed but is dry, as a rule. Their most characteristic points are the absence of any tendency to ulceration, their central depression, their livid brownish colour, and their glistening appearance when the skin is stretched. They may appear anywhere on the skin, but preferably on the arms, the lower back, and especially the extensor surface of the lower limbs. According to the authors' experience there are rarely many present in one case, sometimes not more than four or five, or even less. Hamburger has called attention to the fact that they are easily overlooked on account of their minute size. They were found in asylum children in about 40 per cent. of the cases. They will be less frequent in dispensary practice, as they need watching for constantly, since they soon lose their characteristic appearance. In many hundred non-tuberculous infants they have never been seen by the authors. Their tuberculous character is shown by the fact that in 70 per cent. of the cases tubercle bacilli have been found. A number of case histories are given.

Hydrotherapy.

T. McCRAE, Baltimore (*Journal A. M. A.*, November 5), remarks on the comparative neglect which has been given to the subject of hydrotherapy from biblical times down to the present. One of the important reasons for this is the lack of proper instruction in hydrotherapy in medical teaching. Another may be the excessive claims made by some of its advocates. He discusses this method of treatment under three heads: internal hydrotherapy, local hydrotherapy and general hydrotherapy, entirely apart from any consideration of mineral constituents. In internal hydrotherapy it is of first importance, of course, to see that the water is uncontaminated. The purposes which may be fulfilled by its internal administration are too numerous to go over in detail and certain examples only are chosen. When one considers the proportion of the body weight due to water its need in the economy is evident. It is an important agent in both absorption and assimilation. One of the most marked examples of its benefit is furnished in the acute infections, where the greatest danger lies in toxemia. The kidneys are the great eliminating channels of toxins and there is no proof that their free flushing is injurious unless it may be in acute nephritis. In some of the lesser infections, such as tonsillitis, the effect of active internal hydrotherapy is often marked. In some forms of chronic arthritis apparently of toxic origin and in some nervous diseases the effects of the internal administration of water are marked. The increasing use of saline infusions and enemata is another evidence of the recognition of this principle. The absurdity of giving diuretic drugs without also giving water is admitted. It must be given internally before it can be excreted. Of course, we should consider the condition of the circulation and the kidneys, but in general, these are more liable to be injured by toxins than by hydrotherapy. In typhoid fever, for example, we should try to have the patients pass at least 3,000 c.c., or better, 5,000 c.c. of urine every day. In pneumonia we could hardly reach such amounts; probably 2,000 c.c. would be as much as could be passed. In septicemia, again, we may hope to obtain the larger amounts. Of course, a part is excreted by the skin, and that should be taken into consideration. In certain diseases, like gout, arteriosclerosis or chronic arthritis, we advise the free ingestion of water as a routine measure, having regard always to the state of the circulation. Metabolism is probably helped and the excretion of toxins aided. The influence on the digestive tract should be kept in mind, however, as too much water might be injurious to an atonic stomach. In local hydrotherapy the

circulatory and nervous systems are especially involved and it is sometimes difficult to say which plays the most important part. There are several factors at work. One of the most important is the influence on the blood-flow: another is the effect on osmosis, which is markedly altered in inflamed tissues. In some applications there is an important effect on deeper structures. We are familiar with this in the case of counter-irritants, and the influence of local hydrotherapy is quite as marked. The use of cold compresses to the thorax in bronchitis is mentioned. The effect on local nervous influences is shown by the relief of pain, and it is possible that the sympathetic system is also involved. General hydrotherapy is mainly employed by the use of baths, which are of value in both chronic and acute infections as well as in various nervous disorders. As in the local use of water, both the circulatory and the nervous systems are affected. The use of baths in fevers, and as relief for insomnia, is mentioned as well-recognized and illustrating both these uses. Friction as an adjunct to the bath is also mentioned as stimulating the circulation of the vasomotor system. The value of general hydrotherapy in health is also noted, and McCrae says that it is difficult to say how much the cold morning tub adds to the working ability of the world. Its effect in the prevention of "catching cold" is well known. We all take daily advantage of these two great helps of external therapy in health, and he says that it is a matter for wonder that we are not more willing to give our patients the advantage of them in disease.

Cancer Prophylaxis.

C. H. MAYO, Rochester, Minn. (*Journal A. M. A.*, November 5), says that we must consider the irritation of groups of epithelial cells as the primary origin of cancer. He says it is evident that there exists a pre-cancerous condition. The unproved type, that of prenatal displacement, we are unable to recognize. The post-natal type we recognize at least in tumours of a temporary benign character in their more regular and uniform arrangement of structure and cells, such as skin warts, vesical papillomata, cell inclusions in scars and the results of long-continued irritations to tissues. These growths resemble the embryologic development of cells merely in the power of cell multiplication and in the continuance of type in the metastasis and transplantation of the growth. Bashford shows that, while no race is exempt from cancer, the predilection for the disease in certain countries is more from local irritation than from climate, soil and diet. Why it is not more common following chronic irritation it is impossible to say. It is not necessary to suppose a parasitic origin of the disease to account for its occurrence. In classi-

fying the causes which may render precancerous conditions active we must apparently include nerve fatigue. Cancer of the stomach, bladder and large bowel undoubtedly result from chronic local irritation, and the question arises whether the supposed repeated medical healing of gastric ulcers relieves the tendency to cancer, a large percentage of which develops on ulcers. The modern surgical tendency is to excise ulcers in their precancerous condition, and this should be the rule also with bladder papillomas. He also recommends it in case of hyperplasia of the prostate, even before it has caused distress, on account of the cancerous tendency of the organ. A rapidly growing, hard goitre should be looked on as a menace and early operation advised. Patients with typhoid tumours indicate that an adenoma may cause carcinoma in about one in twenty-five or thirty cases. The irritative effects of tumours of the uterus are also noticed, and, while operation should not be advised in all cases, they should be removed if they cause symptoms, by myomectomy in the young and hysterectomy in the older individual as methods of choice. Tumours of the breast should be watched also with great care, and physicians should not assume the responsibility of delay, but inform the patients of the risk they run. He urges the early performance of the radical operation in early cancer of the breast. As to methods of cure we must admit a wide difference in malignancy, but there is also a wide difference in the resistance of the cases. Serum treatment seems to offer some promise. Patients should be informed in the precancerous stage of their disorder and realize that the danger is not in surgery, but in delayed surgery. It is this last which has caused it to fall into any discredit it has with patients at the present time.

Cancer of the Skin.

L. LOEB, Philadelphia (*Journal A. M. A.*, November 5), analyzes the etiologic factors of skin cancer, external and internal. The external factors of importance are: 1. Light rays, especially the short-wave ones, which are active in the cancer of seamen and of that of old people based on the keratoma, and which are found mainly on parts exposed to light. The X-rays are responsible, of course, for the cancer of X-ray operators. 2. Certain chemical factors are undoubtedly the cause of cancer, such as that of chimney-sweeps and paraffin and coal-tar workers. Arsenic, taken over long periods of time, influences the skin. 3. Certain mechanical irritations, such as heat, friction, etc., are also factors. 4. There may also be mentioned those conditions or organisms that cause disorders, such as lupus, psoriasis and certain scars and ulcers. We have less definite knowledge of the internal conditions. Cancer arising from a congenital pigmented mole indicates that a certain localized and congenital

hereditary condition is to be reckoned with, and there is undoubtedly a susceptibility to the ultraviolet rays of light in some persons that is effective to some extent. Loeb takes up the embryonic theory, but does not consider it sustained by facts. So far as old age is concerned, he also discredits it as a direct factor, as far as the epidermis is concerned. Instead of explaining various skin lesions as due to premature senescence, we should take the view that the senile changes are due to long-continued injurious external influences. While at the present time we should keep in mind the possibility of an etiologic significance of microorganisms, their connexion with cancer seems to be hardly probable. The effects of irritants, among the external causes, are suggested as corresponding with the chemical activity of internal organs as a factor in cancer growth, by stimulating the overlying epidermis. Loeb says: "Until further experimental investigations shall enable us to discriminate with greater accuracy between the various factors and their mode of action, one must be content to state that, in many cases of cancer long-continued external irritation is of the greatest etiologic significance; that long-continued stimulation of the epidermis may lead to the formation of cancer, but that at present it is not possible to state how much of this stimulation is exerted directly on the epithelial cells through the external agencies, and how much is an indirect effect caused by changes in the organism as a whole or in the underlying connective tissue." But even if these latter changes should prove to be of greater significance, and not merely co-ordinated changes, they may be assumed to stimulate by physiochemical processes the overlying skin. We must beware of too detailed explanations, but may be certain that long-continued irritation causes changes in epithelial proliferation which may be continued indefinitely.

G. E. ARMSTRONG, M.D. "Typhoid Perforations and Perforations of the Gall Bladder." *British Medical Journal*, October 25th.

G. E. Armstrong states that the pathogenesis of typhoid perforation is the coagulation necrosis of the lymphoid tissue opposite the mesenteric attachment, where the blood supply is poor. The problem before the profession is to lower the mortality rate; therefore, the first question is, What are the causes of the high death-rate in typhoid perforation? They are: 1. The condition of the patient at the time of its occurrence. Towards the removal of this cause one can do little, although it adds greatly to the difficulties of recognition. 2. The difficulties in diagnosis. This is almost the whole question at the present time. Once perforation has occurred, one may agree pretty well on the remedy to be applied and on most of the details of carrying that remedy

into effect; but how to make the diagnosis—that is the question above all others in typhoid perforation. This condition is not announced by definite and distinct symptoms. One must clearly appreciate the difference between perforation and peritonitis. The absence of harmony in symptoms is a diagnostic point in favour of perforation. The change for the worse in the patient is often out of all proportion to the abdominal symptoms. Abdominal pain is the danger signal; with this there are tenderness, rigidity, and muscle spasm. One should not conclude that there is no tenderness present without a rectal examination. Later on, when peritonitis has developed, careful inspection may reveal lessened abdominal movement during respiration. If perforation occurs into the free peritoneal cavity the patient cannot recover unless the opening is closed. The only perforations that do not prove fatal unless closed by the surgeon are those occurring in the large bowel and between the layers of the mesentery. It has been demonstrated at the operating table that a small perforation in the small intestine may be temporarily closed by omentum, but that such cases would have recovered if they had been left alone is open to very serious doubt.

J. A. FORDYCE, M.D. "Further Observations on the Use of the Ehrlich-Hata Preparation (606) in the Treatment of Syphilis." *New York Medical Journal*, November 12, 1910.

Ehrlich-Hata Preparation.—J. A. Fordyce states that from an attitude of conservatism in the beginning he is becoming more and more impressed with the remarkable action of the drug, especially in the early period of the disease, and in cases which do not respond to mercury and potassium iodide. Decided improvement occurred in cases of leucic endarteritis of the base and of obstinate gummatous ulceration. It is possible with one dose, though that be a minimal one, to eradicate completely the cause of the disease. The following points are also emphasized: (1) Primary lesions should be treated as early as possible, and in the young and vigorous with not less than 0.5 gram intravenously.

In this connexion attention may be called to an article in *Münchener Medizinische Wochenschrift*, abstracted in *The Medical Record*, upon "The Ehrlich-Hata Remedy and Filariasis," in which Reichman describes a filarial malady which is, if not unknown to parasitologists, at least uncommon. The case occurred in Jena, and had no exotic element. It was, however, rendered obscure by a recent syphilitic infection, which was perhaps responsible for some of the symptoms, although the patient had received proper and timely treatment (Hg). A positive Wassermann reaction accompanied the filariasis. The parasite appeared

to attack the pleura and kidneys, so that the symptoms were those of both conditions. Increased intrathoracic pressure, anasarca, oliguria, etc., were present. The earlier symptoms, however, could only be likened to intestinal colic, which fact suggested that some general infection had occurred by the intestinal route. As soon as the positive Wassermann reaction was obtained an injection of 606 was given with astonishing success. Before that period a filarial parasite had been cultivated from a pleural puncture fluid. All attempts to find them in the blood and urine failed. The injection of 606 appeared to have destroyed the parasites. As already stated the filaria was not recognized as corresponding to any known species. Hence it may be claimed that it was not the cause of the severe disease. Whether the Ehrlich-Hata remedy possesses filariocidal powers, or whether it acted on a totally unrecognizable remnant of syphilis, the result was most remarkable.

“Roentgen Rays in Dermatology,” *Münchener Medizinische Wochenschrift*.—Löwenberg states that with fourteen years' experience one should be able to lay down the indications and contraindications for this resource in this class of cases. Most of the bad effects on record have affected the Roentgen specialist and his assistants, few having affected the patient. In the meantime the specialist has learned to graduate the dosage; and since 1902 Holzknacht has so mastered this difficulty that the use of the rays is relatively safe for operator and patient alike. Others have taken advantage of this improvement so that by to-day the radiometer of Sabourand and Noire has been used by the author and his colleagues 3,000 times with relative safety. This instrument is practically a dosimeter, and through its use one reaches an erythema dose which serves as a maximum. One-half or one-fourth of this dose may often effect the desired result. Recent attempts in the sphere of dosimetry appear to add nothing to the Sabourand procedure. Many dermatologists continue to use the rays indiscriminately and without regard to dosage, and failures in epilation and in the reduction of tumours are ascribed to the inefficiency of the treatment, while on the other hand burns are common. One must not, however, fail to take notice of the Roentgen idiosyncrasy or supersensitiveness, which would be constantly in apparent evidence without dosimetry. Such an idiosyncrasy has been denied outright by some and pronounced very infrequent by others. The authors have not seen a single case in 3,000 radiations. Yet the profession and public are always fearful of such supersensitiveness. One should know all that is to be learned of the power of the rays. It appears, for example, that young animals may be stunted in growth by a certain amount of radiation, and, indeed, the known inhibitory

action of the rays on cellular activity might justify such a surmise. But apparently human tissues, being more highly organized, are more resistant in these respects. Much depends, naturally, on the right of certain cells to survive. Thus we know that in hypertrichosis the rays are able to destroy certain hair papillæ while sparing the skin at large. Diseases, which by their very nature tend to destroy the hair papillæ, are naturally assisted by this resource, and the old time tedious epilation has been superseded, or if the latter resource is employed it is simple and painless. There is no evidence that the X-rays are actually germicidal—hence in all diseases caused by living organisms parasiticides must be employed. The removal of pronounced hypertrichosis, as in bearded women, does not lie within the province of the rays. When used in maximal doses they tend to cause ugly telangiectasias and scars. The rays seem to be efficacious in highly chronic and localized eczema. In fact, they should supersede all other treatments in certain local varieties of the disease. Psoriasis tends to yield to mild radiation, even in one-quarter maximal dose, but relapses occur with the usual frequency. The same is true of the results of radiation for other skin diseases. It is the record of other means of relief for these conditions. Some improve, some hold their own, and others recede under the treatment. When the authors' summary is digested one finds nothing new. Clearly if Roentgen rays give special results in dermatology, the method of demonstrating them is open to all the objections of any new treatment.

Society Proceedings.

THE MONTREAL MEDICO-CHIRURGICAL SOCIETY.

The third regular meeting of the Society was held Friday evening, November 4th, 1910, Dr. C. F. Martin, President, in the Chair.

The evening was devoted to a consideration of X-rays in medicine and surgery, with lantern slides and illuminated skiagrams. In addition an exhibition of skiagrams was arranged to illustrate various conditions of interest in medicine and surgery.

Dr. G. P. Girdwood opened the discussion:

ON RECENT ADVANCES IN THE DEVELOPMENT OF X-RAYS AS AN AID IN MEDICAL AND SURGICAL DIAGNOSIS AND TREATMENT.

In opening the remarks and discussion on the recent advances made in the development of the Roentgen rays, in aid of medical and surgical

diagnosis and treatment, the variety and extent of advance in the last twelve months is found to be almost bewildering. From all parts come reports of something accomplished in every part of the world, and the great difficulty of putting these advances into any sort of order seems almost impossible, more especially when limited by time.

In the last few years we have made great advances in the speed with which Roentgenographs can be produced. It is now possible to make an exposure and take a picture in about 1-100th of a second. This can only be accomplished by using currents of 250 to 500 volts, with an amperage of 50 to 100 amperes. These are currents requiring the greatest care in handling, and with apparatus most carefully protected, to avoid the risk of premature electrocution on the part of those using them. They also involve a large outlay of money in procuring them, and wear and tear make a costly upkeep. As an example, the Montreal Light Heat and Power Company offered to supply a current of 250 volts and 50 amperes, for experimental purposes for the short space of a week, at a cost of \$100; but would not guarantee the amperage, as there would be several elevators and a church organ to drive at any moment, quite unknown, which might reduce the current by more than 50 per cent., in the middle of an exposure perhaps. However, it is possible to overcome these difficulties, as is done elsewhere, but at a cost. The tube makers and the coil makers have been working, the one to make tubes that will stand any current, and the coil maker producing currents that will break down almost any tube. These currents are numerous, and the difficulty is to find one that will do the work satisfactorily. Then, these currents require interrupting, and the number of interrupters to break these high powers has also been a very difficult problem to solve.

These are some of the difficulties X-ray workers have had to overcome, and although there is plenty of room for improvement it is possible to get along fairly well at present.

The introduction of bio-Roentgenography, the taking of living, moving, internal organs, such as the heart, lungs, stomach and intestines, is receiving much attention. In the case of the lungs, it is possible to get the patient to hold his breath long enough to get a good Roentgenograph with sufficient rapidity, and now beautiful specimens of this work are to be seen reproduced in the different journals. The heart movements are so rapid that an average of 60 beats to the minute will give one complete cycle of movement in a second, and therefore, as many pictures as are necessary to portray one cycle, must be made within the second. To obtain five or even six pictures, which would hardly be enough, would require the exposure of six plates all exactly in the same

place, one after the other, within the second. This, of course, must be accomplished by machinery, and so far four pictures are the most that have been taken. In the heart there is sufficient density to produce a picture if it be taken with sufficient speed, but with the hollow organs, the stomach and the intestines, it becomes necessary to put something in them which is impervious to X-rays to fill up the cavity and give a distinct outline. For this purpose some substance, not poisonous, must be used, and what is called the bismuth meal was introduced by Rieder, who employed the subnitrate of bismuth. This, however, was observed occasionally to produce unpleasant symptoms of poisoning, especially in children, and the carbonate was substituted by Groedel, from the use of which no inconvenience has been suffered. It should be impressed that the nitrate not only may be contaminated with salts of copper and lead, but that its administration is almost always accompanied by the formation of methæmoglobin in the blood, which can be detected in the blood by the spectroscope.

The patient should be prepared for this bismuth meal for at least 24 hours before administration, by being well cleared out, and then abstinence from the time the stomach and intestines have resumed their normal condition, until the administration of the meal, which may consist of carbonate of bismuth. Zirconium oxide has been suggested by Hulet, of Rapid City, Michigan. But the fact that the atomic weight of bismuth is 208, and that of zirconium only 90.4, and as the density of shadow cast depends on the atomic weight, half the quantity of bismuth would be sufficient as compared with zirconium oxide.

The bismuth meal, recommended by Dr. Franz Groedel, consists of from 50 to 100 grammes of bismuth carbonate, rubbed up with milk and flavoured with a little raspberry jelly, and made up to 400 grammes with lukewarm broth, equal to about 6.173 grains, a little more than $\frac{6}{7}$ ths of a pound weight, and measuring only $\frac{75}{100}$ of a pint. It is important to note that the stomach, immediately after its ingestion, may be considerably modified, the gravitation of so large a weight altering its shape. Having taken the meal, ~~fluoroscopic examination may be~~ made at once and watched during the succeeding 22 seconds, the time recorded as being that occupied by one contraction of the stomach. Messrs. Kastle, Reider and Rosenthal have published an account and given reproductions of Roentgenographs taken, 13 in the 22 seconds. Several of these will be shown by lantern slides made therefrom, and tracings made from the original plates will be produced which show the outline of the different phases.

Groedel has produced similar reductions of Roentgenographs, and the

views expressed by the two sets of observers as to the interpretation of their observations have led to two different views with regard to the contraction of the stomach, which must be left to the profession to settle after more experience.

Next among the many advances may be mentioned the Roentgenography of the hypophysis cerebri in its association with acromegaly, cretinism, achondroplasia, and rickets. This has lately been worked out by Dr. F. Jaugeas, who has produced four reductions of radiographs, lantern slides of which will be thrown on the screen, as also a slide of a normal skull showing the position of the sella turcica, to obtain a good picture of which it is best to adjust the patient's head so that the plate on which the head rests shall be parallel with the median plane of the skull, and that the vertical ray from the focus tube shall fall as nearly as possible through a spot midway between the external auditory meatus and the external angle of the eye. This was the position in which the normal skull exhibited was taken.

In June last, Dr. Leopold Freund, writing on Roentgen ray treatment of goitre, summing up his experience and that of others, noted that in all cases of goitre there is a beneficial effect in reducing the size and relieving the symptoms, but that permanent cure is seldom met with.

Perhaps the most important addition to our knowledge of the treatment of cases by Roentgen rays is a communication by Sir J. J. Thompson on the secondary rays emitted by different metals when stimulated by the Roentgen rays. That the Roentgen rays are incapable of reflection or refraction by any known means is admitted by all observers, but when a ray falls on a plate of metal the metal starts secondary rays emanating from the point so struck,—this has been long admitted, but what Sir J. J. Thompson, and Dr. Barkla, a pupil of Professor Thompson, and now professor in King's College, have discovered is, that these secondary rays are always of one particular sort for every metal struck, and not necessarily metallic substance, but that all substances when struck by X-rays produce secondary rays from the point struck, and that these secondary rays are always of the same character, no matter from what source the X-rays are derived. Sir J. J. Thompson says: If we expose a piece of iron to Roentgen rays the iron gives out one particular kind—a perfectly definite kind—of Roentgen radiation, it does not matter what the quality of the rays that strike it. If we take another metal, say copper, we find that it gives out quite a definite kind of radiation and quite different from that given out by iron. Silver, also, when struck emits a certain definite kind of radiation different from the copper or iron, it does not matter what the nature of the incident ray in any of these cases.

By this means, then, we are able to obtain rays of certain definite character, and if it is desirable to make use of these rays in any special part of the body, we shall be able to do so by inserting a piece of the metal which will produce X-rays we require, and irradiating that piece of metal *in situ* by highly penetrative rays, which will pass through the superficial layers of flesh. Thus we hope to be able to know what kind of rays we wish to make use of and apply them on the spot where they are wanted.

The advances, then, in the application of this branch of medicine may be found in:

The recent examination of the mastoid region.

The aid of Roentgen rays in the early diagnosis of pulmonary tuberculosis.

Post operation radiation in cancer.

Diagnosis of achondroplasia.

Stereoscopic radiography as a diagnostic aid in pulmonary tuberculosis.

Roentgen ray diagnosis in diseases of bones.

The use of bismuth paste injected into sinuses and other cavities, and then the taking of a radiograph should be of help to the surgeon in diagnosing the case under treatment.

Professor Bela Alexander introduced a process by which an ordinary skiagraph may be made to represent a cast in plaster, giving more depth to the picture and bringing out detail and giving a certain amount of solidity to the picture.

LANTERN SLIDES EXHIBITED BY DR. GIRDWOOD.

1. Fractured left humerus in a child four days old.
2. Same in splint.
3. Child, one year old, born without legs, and arms only just to above elbow joint.
4. Head of same child showing teeth coming up.
5. View of apparatus for taking Biuroentgenographs.
6. Outlines traced of 13 stomach views taken in 22 seconds by Kastle, Rieder and Rosenthal, archives of Roentgen rays.
7. Composite picture of tracings of normal stomach.
8. Twelve tracings from a stomach with cancer of pylorus, by same authors.
9. Composite picture of 8 from archives of Roentgen rays.
10. Four stomachs after bismuth meal, from which above tracings were made.
11. Four more pictures of same showing the changes.
- 12 and 13. Stomach and large intestine after the introduction of car-

bonate of bismuth after Groedel, reproduced from the archives of Roentgen rays.

14. Reduction from skiagraph of skull showing the sella turcica.
15. Reduction of four Roentgenographs by Jaugeas.
16. Hypophysis cerebri from the archives of Roentgen rays.
17. Fracture of tibia and fibula that had been wired.
18. Fracture of lower end of radius with impaction.
19. Tubercular ulceration of os calcis by Bela Alexander's plan of plastorelieve photographs, showing erosion of bone.
20. Case of arthrodesis of ankle joint for club foot.

Dr. H. S. Birkett exhibited skiagrams showing the practical application of radiography in suppurative diseases of the accessory sinuses of the nose and of the mastoid.

Dr. W. Wilkins gave a demonstration of some skiagrams in the practice of surgery.

Dr. R. P. Campbell: The use of X-rays in calculous and other diseases of the kidneys and bladder.

Intermission for exhibition of plates.

Dr. Hamilton: The fluoroscopic diagnosis of pulmonary conditions.

Dr. Martin: The fluoroscopic diagnosis of cardio-vascular conditions.

Dr. Elder: The use and abuse of the X-rays in fractures.

Dr. von Eberts: The application of X-rays to intestinal surgery.

The application of Roentgen rays in the diagnosis of the surgical affections of the gastro-intestinal tract is daily becoming more frequent. The work of Rieder and Holzknacht established a basis for subsequent investigation. These authors were followed by Fincka, who within the present year has made an extensive report upon his work in von Brunn's clinic at Tübingen. By means of bismuth meal, this investigator has done much to render possible the diagnosis of such gastric conditions as dislocation of the stomach, ulcer, gastrectasis and gastroptosis, adhesions, hour glass deformities, and malignant tumours, as well as to establish a normal standard with regard to size, position and peristaltic activity.

The following series of plates may be shown in illustration. These were taken in the case of a young man presenting indefinite abdominal symptoms, which were thought to be due to gastric dilatation and defective motility. Bismuth meal was given at 10.45 a.m., and the first exposure was 15 minutes later at 11 a.m., with the patient in the prone position. The second exposure at 11.15, in the standing position; the third at 1 p.m., in the prone position, and the fourth at 4 p.m., also in the prone position. The greater curvature was found to be much lower than

was suspected. It would appear, however, from the other plates, that the stomach was capable of emptying itself within a normal period.

The technique applicable to the above investigations may be also applied in the diagnosis of such conditions of the large bowel as tumours, stricture, tuberculous or actinomycotic infiltration, fistulae, and foreign bodies. In illustration, I would beg leave to present a plate in which the shadow of the large bowel from the rectum to the ileocaecal valve is shown in extraordinary detail. In this individual a large fecal fistula, communicating with the descending colon, had persisted after an anastomosis between the transverse colon and sigmoid had presumably been effected. By means of this skiagram it was possible to determine definitely before opening the abdomen that the entero-enterostomy was placed at a point above the level of the fistula.

The fourth regular meeting of the Society was held November 18th, 1910, Dr. C. F. Martin, President, in the Chair.

EXHIBITS.

1. New series of skiagrams.
2. An electrical ophthalmoscope, by A. W. Morrison.
3. Ehrlich's "606." The new synthetic drug thought to cure syphilis after one injection.
4. The newer publications in medicine and surgery.

LIVING CASES.

1. Extirpation of the larynx, by Dr. R. H. Craig. Discussed by Dr. H. S. Birkett.
2. Double radical frontal sinus and antrum operation, by Dr. E. Hamilton White. Discussed by Dr. H. S. Birkett.

PATHOLOGICAL SPECIMENS.

Dr. O. C. Gruner, of the Royal Victoria Hospital, exhibited the following specimens:

1. *Fungating Cancer of Stomach.*—From a case with greatly enlarged liver, partial thrombosis of the portal vein, with tumour growth into it; secondaries in lumbar glands and adrenals.

Note a large mass along the lesser curvature covering two-thirds of the anterior wall. The growth is cauliflower like and densely infiltrates the wall of the stomach. One oval mass is ulcerated in the middle and its edges thick around it and very prominent. Adjoining it are three small nodules not ulcerated. A mass of enlarged glands is seen along the lesser curvature. They are hæmorrhagic as well as infiltrated with growth. There was much blood in the intestine. The growths in the

liver are peculiar on account of their vascularity and their ill defined nature.

2. *Primary Malignant Disease of Liver with Cirrhosis.*—This is a case in which there was no growth anywhere else in the body. A striking condition was the blocking of the portal vein by a solid mass of tissue extending from one side of the liver to the other causing liver necroses. The hepatic veins and inferior vena cava were not affected.

Other lesions were—atrophy of the heart, hæmorrhage into stomach and intestine, ascites, atheroma of the coronary and splenic arteries.

3. *Head of Tania Mediocanellata. (Beef Tape Worm.)*

4. *Trichina in Muscle.*

5. *Tuberculous Prostate: Disseminated Tubercle of Adrenals.*—From a case of general tuberculosis secondary to old tubercle of the lungs.

The left lobe of the prostate showed abundance of cheesy material, and the corresponding vesicula and testis was full of cheesy pus. There was no disease in the other side of the prostate. It was rather remarkable that the urethral membrane and bladder were not infected. The adrenals were studded with tubercles and the structure of the organs was obscure; the skin showed pigmentation.

6. *Calcified Plate in Mitral Valve.*—From a case of cancer of the sigmoid.

The mitral valve left a very small aperture barely admitting two fingers. The edges were very thick and hard and a calcified nodule .7 cm. in diameter was present at the junction of the two cusps in front. At the posterior papillary muscle the chordæ were obliterated and the valve was tightly bound down to the muscle. At that spot there was a calcified plate 1 cm. square, with a concave upper surface. There is no record of symptoms produced by this lesion.

7. *Gangrenous Lungs.*—From a case of puerperal septicæmia, with septic thrombosis of the pelvic veins, iliac veins and inferior vena cava.

The case was one in which there had been incomplete curetting after parturition; and the upper end of the uterine cavity had still some purulent looking material with thrombosis in the veins of its wall. The disease in the lungs is evidently the result of thrombosis and produced a striking appearance, the lower lobe of each lung being converted into a large abscess cavity.

DEMONSTRATIONS ON RADIOGRAPHY.

1. Skiagrams of arthritic conditions and errors in their interpretation, by Dr. W. G. Turner.

2. The use of X-rays in some orthopædic conditions, by Dr. A. Mackenzie Forbes.

3. The value of X-ray examination of the stomach by means of the bismuth meal, by Dr. F. A. Scrimger.

Dr. F. T. Tooke presented two slides, (1) showing the foetal orbit in its relation to the accessory nasal sinuses (Guinea pig); (2) the foetal orbit in its relation to the turbinated bones (human).

PAPER.

The paper of the evening was read by Dr. D. A. Shirres, on Acute Epidemic Poliomyelitis. The following is a synopsis:

1. A brief report of the epidemic that occurred in Montreal.
2. Description of clinical cases resembling,—multiple neuritis, ascending myelitis, transverse myelitis, gastro-intestinal type of influenza (abortive form), pontine disease, Meniere's disease, encephalitis, ataxia (cerebellar disease), meningitis, and mental disease.
3. Flexner's recent findings as to etiology and prevention.
4. Treatment in the early and late stages.

Discussion by Dr. Russell on the Pathology; Dr. A. A. Robertson on the Etiology; Dr. William Winfrey on the Medical Treatment; Dr. N. Viner on the Possible Sources of Origin; Dr. Mackenzie Forbes on the Surgical Treatment.

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