

The Canada Lancet

Vol. XLV.

TORONTO, MAY, 1912

No. 9

EDITORIAL

THE LISTER NIGHT.

The Academy of Medicine of Toronto devoted the entire evening of 2nd April to a symposium on the late Lord Lister. Lord Lister needed nothing that could be said of his great work, but he deserved all, and more than all, that can ever be said of what he did for humanity. Greater love hath no man than that he lay down his life for others. In the highest and truest sense, Lister gave his life for others. His discoveries were as the leaves of the tree of life for the healing of the people.

Twenty-four centuries had to come and go from the days when Hippocrates wrote on medical subjects to the finishing of the surgical arch by the placing in it by Lister of the keystone of antiseptics. Carlyle has said: "That a great man is as fire sent forth from heaven; the rest of mankind waited for his coming and then they too became aflame." Lister kindled the beacon light at which all else have trimmed their lamps.

Pope, in writing of one of the world's great minds, said:

Nature, and nature's laws, laid hid in night;
God said, let Newton be! and all was light.

These words we can change and apply to the work of Lister.

The healing of our wounds lay hid in night,
Till Lister came and gave us light.

It is when such a man as Lister dies that we realize the full meaning of Emerson when he says: "He has now ceased to be our companion and has become our guide." Antiseptic surgery can never die. It will ever guide the surgeon. It has enabled him to enter the three sacred cavities of the human body, those of the head, the thorax, and the abdomen. It has saved millions of lives and added tens of mil-

lions of years to the total duration of life. So it is that his influence goes on. We recall the words of Longfellow:

So when a great man dies,
For years beyond our ken,
The light he leaves behind him lies
Upon the paths of men.

He was a splendid embodiment of gentleness and firmness. He met with strenuous opposition to his views, but he had faith in himself and his cause. He had laid his foundations deep and broad on the principles of science. "Build to-day then firm and sure, on a wide and ample base," was his motto; and he felt when doing so that, "Then ascending and secure shall to-morrow find its place." He believed in the old saying *magna est veritas et prevalebit*, truth is mighty and shall prevail. He fulfilled Shakespeare's idea of a perfect man:

His words were bonds, his oaths were oracles;
His love sincere, his thoughts immaculate;
His tears, pure messengers sent from his heart;
His heart as far from fraud as heaven from earth.

Full of years and honors he has passed from amongst us; and is now enrolled among the Empire's greatest dead. There let him rest on the monument of his own most cunning workmanship, and on that monument we lovingly place the eulogy of Marc Antony over the departed Brutus:

His life was gentle; and the elements
So mixed in him, that Nature could stand up,
And say to all the world, "This was a man."

BIRTHS, MARRIAGES AND DEATHS IN ONTARIO.

The report of the births, marriages and deaths for the Province of Ontario for the year 1910 is just to hand. It exhibits care in preparation and contains much useful information on the vital statistics of the province.

The deaths for the year were 33,539, while the births were 55,871, showing a gain in the latter over the former of 22,332. Taking a period of twelve years, we find the total number of deaths was 373,063, and the births were 608,292, or a gain of births over deaths of 235,229. This must be regarded as a satisfactory condition; and shows that the province is far from the stable condition of some old countries, where the death-rate is about the same as the birth-rate.

The birth-rate was 24.9 per 1,000 of the estimated population. This is a slight increase over that of the previous year. There were 124 males to 100 females. There were 370 twin births, with 364 boys and 376 girls. There were 5 cases of triplets, with 9 boys and 6 girls. The illegitimate births numbered 1,077.

The death-rate for the province was 14 per 1,000 of the population. For the decade the death-rate was 14. This is a very favorable showing. In older countries the death-rate runs from 20 to 25 per year. The heaviest rate occurred in the period 1-4 years, and the next in the period 70-79. Tuberculosis caused 2,291 deaths, or a decrease of 89 on the year 1909. Taking the province for periods, we find that in 1881 tuberculosis caused 10 per cent. of all the deaths. In 1891 it was 11 per cent. In 1901 it was 11 per cent. In 1910 it had fallen to 6 per cent. This is encouraging. The deaths from this disease last year were 1 in 14. There were 14,106 males and 16,205 females who died of tuberculosis. March was the most fatal month; and the ages 20 to 29 yielded the largest number, the total being 8,590 for this period.

There were 6,450 deaths under 1 year of age. This is 20.8 per cent. of all the deaths in the province. A terrible loss of life; and, no doubt, much of it is due to carelessness and ignorance. This is a bad record and calls for some efforts to improve the conditions of child life.

The deaths from typhoid fever, 706 in number, proves that a vast quantity of polluted water was drunk. Allowing one death in every ten cases, there were over 7,000 cases in the province during the year.

THE CANADIAN HOSPITAL ASSOCIATION.

This association held its sixth annual meeting in Toronto on 4th, 5th, and 6th of April. The programme was good and the attendance large and enthusiastic. Many topics of the utmost importance were discussed.

No one hospital can claim to have a monopoly of knowledge, and the interchange of opinions between those interested in hospital work is certain to bear good fruit. Practically every phase of hospital management was discussed. Some of the papers and addresses were from persons of very wide experience, and their words carry weight.

Every hospital in Canada should see to it that it becomes a member of this association. The hospital work of this country is among its most important of public affairs. The large numbers treated in these institutions and the efforts for their restoration to health, and the heavy expenses of erecting and maintaining these hospitals, make it

quite apparent that careful thought should be given to the discovery of the best methods of management.

It is a pleasure to note the earnestness of those engaged in this work, and the zeal with which they exchange views and criticize methods. Dr. Bruce Smith has taken an indefatigable interest in the association, and much of its success is due to his efforts. Through his care and consideration it may be said that the Province of Ontario has now one of the best public hospital acts in the world. In Hon. W. J. Hanna the province has had the services of a Minister of the Crown who has been most anxious to do the best that was possible.

DOMINION REGISTRATION.

It is now our pleasant duty to inform the medical profession of Canada that the Canada Medical Act is now a legal fact. A few weeks ago the Ontario Legislature amended the Ontario Medical Act so as to bring the Canada Medical Act into operation. The clause in the bill reads thus: "Subject to the provisos and conditions therein contained, the Canada Medical Act, Revised Statutes of Canada, 1906, shall apply to the Province of Ontario."

This action on the part of the Ontario Legislature brings all the provinces into line. The enabling clause has been passed by the governments of all the provinces. This long struggle is now crowned with a most happy ending. Canada shall soon have a common standard of medical qualification.

In 1902, Dr. Roddick, of Montreal, then a member of the House of Commons, succeeded in carrying through the Parliament of Canada his famous bill. This bill, however, did not quite meet with the approval of all the provincial medical councils, and universities, and there followed some delay, and considerable negotiations were carried on with these bodies in the various provinces. The result was that in 1911 the Act was amended in such a way as to overcome all these objections. The amendments were in the hands of Dr. Black, of Hants, N.S., to whom the profession owes much for his faithful attention to the measure during its consideration by the House of Commons.

It will now be in order for the various medical councils, the Governor-General in Council, and the interested bodies to appoint their delegates to constitute the Dominion Medical Council. This body will then have charge of the carrying into effect the terms of the Canada Medical Act. It is expected that this will be done this summer.

The Canada Lancet has stood by this cause from the first. It is now a most pleasing duty to be able to congratulate Dr. Roddick on

the outcome of his long and arduous struggle. He never weakened in his effort, and he never looked backwards. He was determined to win, and he has won. The medical profession from the Atlantic to the Pacific, with one accord, voices its sincere thanks. So it can be said of Dr. Roddick in the words of Goldsmith,

“He learned the luxury of doing good.”

THE HOSPITAL ACT OF ONTARIO.

The Act which was passed at the recent session of the Ontario Legislature for the purpose of regulating the hospital work of Ontario is a very important measure; and will improve the hospitals of the province very materially. Mr. Hanna and his able adviser, Dr. Bruce Smith, deserve the fullest recognition for the broad spirit in which they have dealt with this question.

One of the important changes made by the Act is that hospitals may now receive from municipalities, societies, railways, etc., \$1.00 a day for patients and also be entitled to the Government grant. Some years ago this was 40 cents; it was later on raised to 50 cents, and then again to 70 cents. Now it has been advanced to \$1.00. This will be a very great help to the hospitals of the province. It is now well known that the average cost of maintenance is above \$1.00 a day. The money received from municipalities, or other corporations, together with the government allowance of 20 cents a day, will about meet the cost of these cases. Thus, it will be that the gain on private ward patients, and the benefit of donations, will go to the upbuilding of the hospitals.

Another provision in the Act is that all hospitals in the vicinity of a medical college shall allow its charity cases to be used for clinical teaching. The condition is laid down, however, that the teaching shall be done by members of the active staff of these hospitals. These two provisions will do much good, as they will enlarge the opportunities of students and do justice to the members of the hospital staffs by giving them the right to instruct the students on their own cases.

Another provision of much importance is that all hospitals must now make provision for tubercular patients. This is a very necessary section. We have contended that hospitals have not done their duty in this regard. They have denied accommodation to many a very deserving patient, and have lost much in the estimation of the public. The hospitals will now become the nuclei of local sanitarium. The effect of the bill will be to cause the hospitals to provide accommodation for these cases in some extra building, or special ward. In the end it will greatly stimulate givings to the hospitals, especially for this purpose.

Another feature of the Act of much value is that it confers on hospitals the power to expropriate property adjacent to them. This puts it beyond the power of any one to hold up a hospital for an exorbitant price.

Under the new Act, hospitals must receive all patients other than such as would require to be placarded according to the Public Health Act, or the regulations thereunder. This may give rise to some inconvenience, but then the public must be considered. We have known of cases of measles in boarding schools and hotels that have been refused by hospitals; and so with erysipelas.

Another useful provision of the Act is that it makes the care of the indigent poor a debt upon the municipality of which such person is a resident. In the past, municipalities have been altogether too willing to shirk their duty in this regard. In future they must be able to show that the person requiring free hospital care is not a resident in order to escape liability. The hospital is given power to charge as high as \$1.00 a day for such cases.

Nurses are given a status under this Act. All hospitals with a training school may submit such training and course of study as is prescribed for their nurses. If such be deemed efficient, the nurses graduating from such a hospital may register and be regarded as registered nurses of the Province of Ontario. A few years ago the nurses applied for a special bill, which, on that occasion, was not made law. This partly meets the demands then put forth.

The Act also deals with private hospitals. In future these hospitals must secure a license from the Department of the Provincial Secretary. The effect of this Act will be to keep these hospitals within proper bounds. It has been known that some of these private hospitals, especially of the maternity class, have had a very undesirable reputation.

On the whole, the hospitals will now conduct their work under a very satisfactory system of rules.

HALF-MILLION FUND FOR VICTORIAN ORDER OF NURSES.

An appeal has been made by Her Royal Highness, the Duchess of Connaught, for half a million dollars to endow the work of the Victorian Order of Nurses. The interest of this fund, along with the one raised by Lady Minto in 1902, would enable the management to establish branches in some districts where there is much need for these nurses.

Already the money is coming in, and it looks as if the wish of Her Royal Highness would soon be realized. We most heartily wish that it may. Canada is now becoming a wealthy country, and, though there are many demands upon the generosity of her people, still there is enough for this purpose also. So far the donations have ranged all the way from \$1 to \$5,000.

Contributions should be addressed to Miss Pelly, Lady-in-waiting, at Government House, Ottawa. Shortly after the appeal was made about \$30,000 had been sent in.

A COMMISSION FOR THE ASYLUMS.

Dr. C. K. Clarke, who is noted for his frank and outspoken methods, a few days ago, at the meeting of the Canadian Hospital Association, came out in plain and strong language that there should be a well regulated civil service in the asylums of the country.

He contended that the best way to secure this would be for the governments of the various provinces to appoint a capable commission to manage the appointments to the staffs of the asylums, and the promotions that may be required from time to time. This would take those out of the influence of politics.

This is the position that THE CANADA LANCET has stood firmly for in the past. It is bound to come, because it is the true way; and "truth crushed to earth shall rise again." This is nearer now than it once was, as we note with pleasure that recently there has been shown a disposition to make promotions on merit acquired by years of useful service.

CURES THAT WOULD BE MIRACLES.

We do not intend to go into the question what constitutes a miracle. This is sufficiently well understood to call for no remarks on our part. We do purpose, however, commenting on two "cures" that would clearly fall within the meaning of "miracle."

A recent writer in Munsey's Magazine tells us that he saw a case of tuberculosis that was claimed to have been cured by the water of the famous shrine of Lourdes in the Pyrenees. The girl was cured during the night. The writer of the article states that he saw the patient walking about, whom a few days before was stricken and helpless. How is this?

Some years ago there was in Toronto a young man in a far advanced stage of pulmonary tuberculosis. There had been several severe hæmorrhages, and the young man was bed-ridden for some time. As the spring came, he improved a little, and was able to take short walks on the streets.

At this stage of his case he sought the treatment of a well-known Christian Scientist, who gave him the most positive assurance that the case could be cured. The young man was inflated with false hope, and under this stimulus he told his friends he was rapidly gaining in strength, and would soon be well. He made himself take long walks. A few weeks later he died of his disease.

It can be seen at once how a powerful mental impression may cause one to appear much better than they are. In the moment of discouragement the person feels worse than they really are. Some wonder-working "cure" is sought, and at once the person feels much better than the true conditions justify. Here is the foundation for the claims that a "cure" had been effected.

The other case of "cure" that we wish to refer to is the claim a Christian Scientist had successfully treated a dog. As the dog could not take part in the treatment, the "cure" must have been due to the influence of the scientist. This would come within the definition of a miracle, as no other than mental or spiritual forces were made use of.

But there is a far more rational way of viewing the improvement in the case of the dog. Dogs, like man, do not die every time they are sick. Many illnesses are quite temporary. When the "treatment" was begun the dog was getting well; but the case was claimed as a victory for Christian Science.

All this is just as grossly ignorant as that of the "Indian cure" by looking at a white goat or lamb skin nailed to a tree; or a piece of red flannel for smallpox; or the laying on of the King's hand; or the "healing" power of the seventh son of the seventh son. It is on all fours with the "demonology" and "witchcraft" "cures" or "curses" of bygone days.

Here let us cite a very interesting case. A young woman consulted a member of the staff of one of the eye departments of a hospital in London, Eng. He made a careful record of her range of vision. She then claimed she was almost blind. She fell under the influence of some mind healer. She came back to the same hospital with the statement that she was now almost cured. She was again carefully examined by another member of staff, who found the range of vision as on the former test. Here is, then, the case of one who was self-deceived, and thought she was improved when she was not.

THE QUALIFICATIONS FOR OSTEOPATHS.

The osteopaths have for some time sought to secure a legal status. There was a battle royal this time when they appeared before the Bills Committee of the Legislature. They sought some most sweeping privileges. It was amusing in the extreme to hear some of them defining osteopathy as a system of medicine that adjusted the spine, and put displaced nerves once more in their proper position.

The original bill sought to give legal standing to the American Osteopathic Association. This was taken out and osteopathic colleges are placed under the approval of the Ontario Medical Council. This is proper. Then an attempt was made to allow all the osteopaths now in practice to register. But it was shown that the training in most cases had been either very poor or almost nil, and that some safeguard should be thrown around the practice. All the sections dealing with Osteopathy were finally struck out of the bill. Osteopaths are still where they were.

Osteopathy is only a treatment by rubbing and manipulation. In some form it has existed for long enough. There is no doubt but that the Greek wrestlers had their bodies rubbed. All down the ages we have had those that tried to cure disease by the laying on of hands. It has always been a question of trying to treat people without going through a proper course of study. That massage and manipulations are good is granted; but they must be applied by skilled people or under the guidance of skilled persons.

AN ACT RESPECTING PUBLIC HEALTH.

Hon. Mr. W. J. Hanna introduced a very important measure into the Local Legislature during the session just closed. This Act is now the law of the Province of Ontario. It consolidated the various Health Acts and adds many new sections.

The Provincial Board of Health for Ontario shall consist of six persons, in addition to the Chief Officer of Health. Of these, at least four must be duly qualified medical practitioners. The Chief Medical Officer shall be a medical practitioner of at least five years' standing. The Board shall hold at least four meetings each year.

The duties of the Board are varied and important; and shall include investigations as to disease and mortality, advising as to sanitary matters, having charge over vaccine and serum, preventing nuisances, the sanitary conditions in gaols, etc., the distribution of sanitary literature, and the power to order necessary changes in premises.

The Act confers upon the Board very wide powers in the regulation of sanitary matters. The removal and abatement of causes of ill-health are special features, and the aim is really one of prevention rather than cure. Streets, traffic, burials, dwelling, medical aid, overcrowding, control of infection, summer resorts, etc., are placed under the control of the Board.

For the better carrying out of this Act, the province may be divided into ten health districts. Over each of these there may be appointed a health officer whose salary shall be \$2,500 annually, and actual and necessary travelling expenses. The local Boards of Health are armed with much authority over health matters.

Every municipality shall appoint a qualified medical practitioner as its health officer. These health officers shall hold office during good behavior and residence in the municipality or immediately adjoining it. Medical officers of health cannot be removed from office except for cause and with the approval of the Provincial Board of Health.

Isolation and emergency hospitals are given full consideration. The acquiring of land required is provided for. The medical care of indigents and the provisions regarding communicable diseases are also cared for in the Act in a most explicit and full manner.

Taking the Act as a whole, it may be regarded as meeting the conditions of this Province for many years to come, and will accomplish much in the way of preventing disease.

THE TITANIC DISASTER.

The *Canada Lancet* only refers to this because of the loss of life. It is the duty of medical journals to take up all topics that make for the safety of the people, the prevention of disease, the lessening of human suffering, and the prolongation of life.

The evidence before the world now is to the effect that a boat cannot be built that may not sink. If ever such an idea existed, it has received its death blow in the sinking of the Titanic.

Another fact has been revealed that the Titanic did not carry sufficient life boats. It is almost useless to have in a vessel a large stock of life belts. The wretch with one of these on, which may keep his head and shoulders above water, while much of his body and his legs are under water, is destined to die a death of terrible torture, in by far the largest number of cases.

Then, again, it has become evident that speed counts for more than safety, at all events, in some instances. One can hardly understand why

a vessel with such a freight of human lives should be going at full speed, at mid-night, and among icebergs. To the ordinary man such things sound as if they should not be!

History has shown that the sacrifice of some is necessary for the safety of the many. This disaster may cause the various countries to agree upon rules for ocean traffic that will make for safety. These rules are apparent to all and consist in taking the safest routes, going at a safe rate of speed, carrying sufficient life-saving devices, having on board skilled persons to man important positions, training the crew on every detail of duty in the event of an emergency, etc.

The one thing that is left out of this sad event is that men and women were brave in the face of death, and lived up to the noblest traditions of the past.

Life every man holds dear, but the brave man
Holds honor for more precious dear than life.

VACCINATION IN ONTARIO.

The recent Act governing the practice of vaccination may accomplish some good. It places the control of vaccination under the Boards of Health. This is much safer than to leave it in the hands of Boards of Education. If any district is threatened with smallpox there is every reason to believe that more vigorous steps will be resorted to in the future for the suppression of the disease than has been the case in the past. The Act is not perfect, but it is a vast improvement on the former one.

THE HEALTH OF ONTARIO.

Taking the whole list of cases reported and deaths occurring, there have been 461 fewer cases and 55 fewer deaths in March than in March a year ago. The total of cases for March, 1911, was 1,772, and the deaths 203, while for March, 1912, there were 1,311 cases and 148 deaths. In March, this year, there were 87 cases, and 10 deaths from typhoid, against 300 cases and 41 deaths last year. From measles there were 264 cases and 4 deaths this March, against 368 cases and 8 deaths last year. Scarlet fever shows a decrease of 421 cases for this March when there were 290 cases and 16 deaths, compared with 711 cases and 25 deaths a year ago.

On the other hand, there were 183 cases and 12 deaths from whooping cough this March, and only 22 cases and 4 deaths in the same month last year. Smallpox cases totalled 103, with 1 death this March, as against

57 cases and 1 death last March. The cases, however, have been mild. There were 231 cases of diphtheria with 22 deaths last month and only 176 cases and 24 deaths a year ago.

More cases of tuberculosis were reported this March than in 1911, due to the better observation of the law on the part of physicians. The deaths from tuberculosis, however, were 10 less than a year ago. This March there were no cases of infantile paralysis, and in March, 1911, there were 4 cases and 2 deaths. Cerebro-sprinal meningitis claimed two victims, as against 7 a year ago.

HEADACHE POWDERS.

A bulletin issued by the Chief Analyst of the Inland Revenue Department contains important warnings and recommendations in regard to the sale of headache powders. The report is the result of three hundred analyses, or two tests each of 150 samples of patent or proprietary medicines purchased throughout the Dominion as headache powders. It is the first test since 1905. In some of the patent medicines there is found to be acetanilid, and phenacitin is found in a number of samples, while in a few cases the chief ingredient was found to be aspirin, a drug not scheduled in the Patent Medicine Act. The analyst points out that the drugs used are known to the medical profession by other names than those by which they are known to the public.

"To employ a synonym of technical import only," says Mr. McGill, "is as effectively to disguise the presence of the drug as the omission of the name altogether for most people. I would suggest that a departmental ruling be made so as to make compulsory the employment on the label of the commonly accepted names of drugs."

He also suggests that the name of the patent drug be prominently indicated, instead of being placed in a lot of reading matter, as is often done. In fifteen samples the schedule drug was found in excess without having any declaration on the label, and without being stamped, thus coming under the penal sections of the Act. Claims to curative powers, coupled with the words "sure," "certain," or "instantaneous," are declared by the analyst to be unwarranted and misleading, constituting misdescription or misbranding. This, he says, should be made punishable under the Act. A final recommendation is made against the putting up of these preparations in the form of lozenges and chocolates. It is declared to be a dangerous innovation. "A drug so potent as a heart depressant as acetanilid or phenacitin should not be disguised in lozenge form. It is sufficiently dangerous to warrant every precaution against excessive use."

CLARISSA HARLOWE BARTON, NURSE.

Miss Barton was born at Oxford, Mass, U.S., on 25th December, 1821. Born on Christmas Day, she gave the most of her long life for the benefit of suffering humanity. She was the daughter of Capt. Barton, who saw much active military service. She taught school for a short time, and then became a cloth trimmer. Later, she established a free school at Bordentown, N.J. She then took a position in the civil service at Washington. When the war broke out she organized nursing corps for the army. Her appeals for supplies and money were responded to in a most liberal manner. She took charge of the nursing in General Butler's army in Virginia. After the war was over she spent much time and labor in discovering missing soldiers, and locating unknown graves. Congress voted her \$75,000 for her services. She then lectured for some time on her experiences during the war. When the Franco-Prussian War broke out she hastened to Strassburg and at once plunged into the duties of caring for the sick and wounded. She then went to Paris to render help in the days of the siege. For this work she received both money and many medals and decorations from the sovereigns of Europe. On her return she engaged in the work of the Red Cross Society and urged the United States Government to enter the treaty for the promotion of this movement. She was chosen the first president of the American Red Cross Society, a position which she held until advancing years and ill-health compelled her to retire. This society did splendid work for the relief of the sufferers in the Michigan bush fires, the Mississippi and Ohio River floods, the Louisiana hurricane, the Texas famine, the Mount Vernon tornado, the Florida yellow fever epidemic, and other similar events. She also saw active service in Cuba during the Spanish-American War. Her long life came to a close on 12th April, 1912, at the age of 91. Some years ago the Grand Army of the Republic met in her home town, and more than 100,000 veterans marched past her door.

"The place is dignified by the doer's deeds."

Do not forget the date of the Ontario Medical Association this year. It will meet in Toronto on 21, 22 and 23 of May. Arrangements are being made that a good deal of the programme shall be of a practical and clinical character at the various hospitals.

ORIGINAL CONTRIBUTIONS

ELECTRICITY IN ABDOMINAL SURGERY.

SIR JAMES GRANT, K.C.M.G., F.R.C.S., EDINB., OTTAWA.

ABDOMINAL tumors of long standing cannot fail to exercise an influence on surrounding parts and tissues, lessening to a degree, the normal power and vigor particularly of the nervous system, as well as disturbing the digestive functions, all of which is most important, as to safe and speedy recovery after abdominal operations in such cases. Here, in a general way, we have to deal first with wasted, exhausted, feeble and weak muscular tissues. The extent and variety of distribution of nerve structure to the abdominal cavity is remarkable. In this region the solar plexus comes nearest the surface and its numerous filaments are closely associated with the branches given off by the abdominal aorta. In addition it interlaces with nerve fibres of the phrenic, gastric, hepatic, splenic, suprarenal, renal mesenteric and spermatic plexuses, and Bastian favors the idea, that the sympathetic system of nerves penetrates deeply by its roots into cerebro-spinal axis. In addition, the peripheral ganglia, have a still higher regulating centre in the medulla oblongata. Gastro-intestinal disturbance has an initial stage of development, frequently slow and progressive in character, and a common associate of long-standing abdominal tumors. Such abnormal growths cannot fail to disturb more or less the surrounding parts as to ordinary functional activity of the nervous system, circulatory, secretive, excretive and the assimilative processes of almost every organ in the abdominal cavity. Under such circumstances great care and close observation are most necessary, particularly as to whether or not defective food assimilation, the outcome of abnormal pressure, has produced a *dilated colon*, the common associate of a *cleft axis-cylinder*. Sherrington, of Manchester, and McDonald, of Sheffield, defined the saline constituents of the axis-cylinder, and poisonous gasses, in the bowel, the result of imperfect food assimilation, act directly on these salines, resulting in clefts in the axis-cylinder of nerve structure, the chief source of trouble in the elaboration of normal blood. In the treatment of many cases of dyspepsia, indigestion, gastric and intestinal, associated with well defined dilated colon, apart from abdominal tumors, I have derived marked benefit from the application of massage, abdominal and electrical, restoring the activity of the digestive functions and increasing the assimilation of food products. Sir Michael Foster (Physiology, p. 122), states, "So long as the nerve is fresh, living, perfectly normal condition, the medulla appears smooth

and continuous, showing no marks beyond the double contour, but in nerves removed from the body for examination, and according to some observers, at times, in nerves still within the body, clefts made their appearance in the medulla running obliquely inward, from the neurilemma of the axis-cylinder. The clefts are spoken of as indentations. We may conclude that the changes, making up what we have called a nervous impulse, take place primarily and chiefly at all events, in this essential part of the nerve fibre, the axis-cylinder. Possibly it may also play a part as an insulator in the electric phenomena. It is along the axis-cylinder that the nervous impulses sweep." The histogenetic action of the abdominal ganglionic nerve centres is a complex problem in the remarkable change from food to blood. A broken electric wire will not convey an electric message, nor will a cleft axis-cylinder transmit a normal nervous impulse, the chief source of irregularity, in blood formation. The remarkable results of abdominal massage in gastro-intestinal, defective digestive functions, marked by rapid reduction of colon distention, give to this subject a degree of attractiveness truly unique in physiological enquiry. It appears as if the internal solution of conductivity in the axis-cylinder is carried out by the organic salts contained and the change brought about by electricity is a dislocation or solution of pre-existing particles, restoring the conductivity of the medulla, axis-cylinder, and thus clearing the way leading to normal blood formation. For electricity, the flat iron neurotone and dry electric cell answer every purpose, and the current should be weak and graduated carefully, not continued, sufficiently long, to induce fatigue, 20 minutes, once daily, for a period of two or three weeks, will be found quite sufficient. There is no doubt but the electric current aids both circulation and nutrition, quite irrespective of the influence it exercises in the intrinsic molecular activity of nerve and muscle. Thorough and careful diet in all such cases is most necessary to build up tissues, vigorous and life-sustaining, the outcome of normal blood formation. Thus only will plastic union of incised parts rapidly follow, removal of large abdominal tumors, and, when of long standing, cannot fail to weaken surrounding tissues and lessen blood activity in the healing process so important in saving valuable lives.

LORD LISTER.

BY DR. N. A. POWELL, PRESIDENT.

TO the man whose memory we honor to-night it was given to confer greater benefits upon humanity than has fallen to the lot of any one else since time began. Dr. Grenfell told us last week that the best thing life can offer to any man is an opportunity to help others.

Lister had his opportunity and the reason why he succeeded where for twenty centuries surgeons had failed, is made clear by the dictum of Pasteur, "Chance favors only the prepared mind." He was prepared for his earlier struggles and his final triumph by natural gifts, by closeness of observation, by logical processes of reasoning, and by scientific training, and so he was enabled to solve the problems before which, ever since surgery had a beginning, others had been standing helpless.

To-night we are to hear from those who saw the very birth of that beneficent system which has transformed surgery. In the final judgment of history it is possible that Lister may not be accorded rank as one of the world's greatest men, but in the good which he did for mankind, by the introduction of this system, his position is unapproached and unapproachable. He made all the world his clinic and for all time those who would do successful surgery must perforce become his followers.

In his later years Lord Lister had to learn that hardest of lessons—how to sit with folded hands waiting for the inevitable. But what a retrospect he had; and with his simple, trusting faith, what a prospect beyond the sunset of life.

Well might he have said:—

"We men . . . must vanish, be it so!

Enough if something from our hands had power
To live and act and serve the future hour."

LISTER IN GLASGOW.*

BY DR. ARCHIBALD MALLOCH, HAMILTON.

(Paper read by Dr. J. Ferguson.)

THERE is nothing that can be said about Lord Lister with which you are not familiar. The remarks in this paper are confined to what was seen of him in Glasgow.

I attended his lectures in Glasgow University on Surgery in '64-'65 and '65-'66, and on operative surgery in the summer sessions results of his own observations and experiments, so that none thought of absenting himself. His words, voice and manner carried with them much dignity. His students worshipped him.

The pathology taught in Glasgow could be summed up in his lectures on coagulation of the blood, on active and passive congestion, and on the relation of the nervous system to the same, which led up to

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inflammation and its results. He made frequent reference to John Hunter and recommended Paget's lectures.

He thought that granulation tissue could only secrete pus when irritated, that the common cause of irritation was decomposition from the presence of the air, that decomposition in the discharges from a wound was due to the same cause, and that it was not the air, nor any of its causes, but something in the air that caused the trouble. He held that if this something could be kept away from wounds they would heal more kindly and mortality be much reduced. He referred to Pasteur's researches which showed that decomposition was due to living organisms in the air.

In the fall of '65 Lister used carbolic acid in full strength to prevent germs entering wounds and to kill those that had found their way in. This treatment was successfully used in compound fractures.

Gradually from '65 to '68 the strength was reduced from the pure acid to that where it was dissolved in boiled linseed oil of the strength of one in four, and later to a strength of one in twenty of a watery solution. The outward application was changed from the crude acid to a mixture of one in four to one in eight of boiled linseed oil. This gave way to a carbolized putty, and later, again, to carbolic acid in lead plaster. This was followed by a mixture of carbolic acid and shellac, spread on cloth, the surface being covered by thin India rubber to prevent its adhesion to the skin.

In those days terrible cases of hospital gangrene, erysipelas, and pyaemia were common. Lister would use large quantities of hot, diluted Curdy's fluid with which he would wash out these wounds. The mortality from open wounds in the British and Continental hospitals was frightful.

It was common to keep cases of simple fractures in the wards to fill the beds and prevent acute cases of open wounds being admitted. In '67 the general use of antiseptics had stamped pyaemia and erysipelas out of his ward, and that he could now increase his accommodation by putting in extra cots. At this time Lister adopted the antiseptic method of treating psoas and lumbar abscesses, and accumulations of pus in joints. These cases healed kindly without the hectic fever that had been so common in the past. These marvellous changes were brought about in the short space of two years.

One night when Lister was away on a holiday there was a patient that required an operation for femoral aneurism. It was performed by Lister's house surgeon with antiseptic precautions. This was the first instance of an artery being ligated in its continuity under Lister's method of treating wounds.

In '68, when acting as Lister's house surgeon, several interesting cases were treated. One was that of an ununited Potts' fracture. The parts were cut down upon and the tibia and fibula broken through by means of bone forceps. The deformity was reduced. This was done under carbolized oil dressing. It healed well and there was no constitutional disturbance.

The second case was one of compound fracture of the leg. This case was dressed with carbolized shellac while Lister was away on vacation. This was the first compound fracture dressed in this way.

The third case was one of a loose cartilage in the knee joint. Mr. Lister operated on this case with happy results.

Mr. Lister was a very careful operator. He was ready for all emergencies, and most painstaking in every detail. He was very careful that his patients were comfortable and all causes of pain removed as far as possible. He had a cheerful and encouraging manner, and his patients trusted him fully.

In '68 he did a radical operation for cancer of the breast, exposing the whole of the axilla, and removed all the glands, fat and cellular tissue. He performed a very thorough radical operation and five years later there had been no return.

He also held that by the use of antiseptics it would now be possible to operate for senile gangrene.

Everyone who ever studied under him carried away the fondest memories of his great kindness to them, and felt the utmost pleasure when they learned that he was being honored for what he had done for surgery.

LISTER IN EDINBURGH.*

BY DR. F. LEM. GRASSETT, TORONTO.

WHEN asked to give a paper on the late Lord Lister, I concluded to speak of my personal recollections of his early work and his great struggle to convince a doubting medical world of its supreme importance. It was a great privilege to have been associated with and watch him fight his uphill fight against ignorance and prejudice.

At that time, 1869, Edinburgh medical education had some very noted men, such as Sir James Simpson, Sir Robert Christian, Sir Patrick H. Watson, Matthews Duncan, and others. Mr. James Syme had just given up the chair of clinical surgery in The Royal Infirmary. Lister, his son-in-law and devoted admirer, had just succeeded him. One day Syme went through the wards along with Lister and was shown

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a compound dislocation and fracture of the ankle joint, healing without constitutional disturbance. Syme said to the patient, "You are fortunate, I lost several out of thirteen in the ward in cases such as yours."

Lister was brought from Glasgow to Edinburgh, and was not too acceptable to the leading lights of the latter place. His introductory lecture was a calm and masterly exposition of his antiseptic surgery. He dwelt upon the influence of germs in causing putrefaction and their action in wounds. He was then 42 years of age and in his prime. He possessed a commanding appearance and had a beautiful and thoughtful face. There were men like Hughes Bennett, Huxley and Bastian who held the doctrine of abiogenesis, but this was being opposed by Coguard la Tour, Schwann and Pasteur. Lister took the position laid down by Harvey, *omne vivum ex vivo*.

In 1869, Lister gave to the world his experiments with several flasks containing fresh and sterilized urine. In those to which the air gained access through tortuous tubes, so that germs could not find their way to the urine, there was no decomposition. This proved that it was not the air, but what it contained that caused fermentation. After two years the urine was faintly acid, and free from scum, cloud or sediment. This was a great victory for his views.

When some tried these experiments and failed, Lister replied that a positive result was certain, whereas a negative one does not disprove his statements and contentions. The love of truth was the governing passion of all his work. In like manner his experiments with milk, putting it fresh from the cow into wine glasses, over which he placed a glass cap and shade. These had been thoroughly cleansed with carbolic acid. The milk was sweet eighteen months later.

In 1870 Lister was perfecting his lac plaster, which had taken the place of the putty. He was proud of this dressing. Old ulcers would be carefully cleansed with carbolic acid, 1 in 40. Then the lac plaster, a stump towel and careful bandaging. At this time he was engaged in the preparation of a gauze as a dressing. When he had got it to suit him he dressed a compound fracture of both bones of the forearm, made by himself to correct a badly united fracture. This dressing was made of cheese cloth impregnated with carbolic acid held in resin diluted with paraffin. The mixture was acid 1, resin 5, paraffin 17.

The year following Lister was often visited by German and other continental surgeons, to whom he explained with the utmost care his method of treating wounds. At this time in the infirmary both methods were practised by different surgeons and thus it became possible to make comparisons. Slowly but surely the new method gained ground.

At this time the students were divided, some believed in antiseptics

and some did not. Professor Spence was not in favor of Lister's method. One of his students had an effusion into the knee joint. It was considered that tapping was desired and the student wished it done with antiseptic precautions. The results were most happy and the Professor underwent a change of mind.

During five years there was only one case of septicaemia following amputation of the breast and a few cases of mild erysipelas. His method of dressing enabled him to open large abscesses that formerly were treated by aspiration and were often followed by infection and constitutional symptoms.

About this time he was summoned to Balmoral to attend Queen Victoria, who had an abscess in the axilla. He opened it under antiseptic precautions and used a piece of rubber tubing, removed from a spray apparatus. The Queen said she liked the odour of the carbolic acid, and this pleased Lister, as some surgeons had objected to it on this ground. Among the agencies that helped to spread the knowledge of his methods and confidence in them were his house surgeons, who were now securing appointments in many places. Lister took a deep interest in his house surgeons and did what he could to place them where their influence would be of value as a means of making his methods better known.

In 1877, Lister left Edinburgh and took the chair of surgery at King's College Hospital, which had been held by Sir William Ferguson. Two of his house surgeons went with him, Watson Cheyne, now Sir, and John Stewart, now in Halifax. Many of the surgeons of those days, such as Mr. Savory and Prof. Spence, stoutly opposed Lister's claims. This was as late as 1880.

But honors began now to come to him. The Queen made him Surgeon-Extraordinary. Dublin University conferred on him the M. D. degree, and he was received with great enthusiasm at the International Surgical Congress of Amsterdam. Later on in life he never grew weary of telling of the changes he had made in his dressings.

The benefits to humanity of his methods in surgery are beyond calculation. It is stated that they have saved more lives than all the wars of the nineteenth century destroyed. Once Mr. Bayard, the American Ambassador, in proposing Lister's health said: "My lord, it is not a profession, it is not a nation, it is humanity itself which, with uncovered head, salutes you." The crown conferred on him in 1883 a baronetcy, and Queen Victoria later raised him to the peerage.

Gratified, no doubt, as he was by these honors, yet I feel sure that Joseph Lister valued the great, the inestimably great, work he did for humanity far above any honor that could possibly be conferred upon him.

This Society, I think, does well to honor his memory to-night. His life has been written with more or less completeness and ability and no doubt will be done again. I have tried to give, not an appreciation of him, not an account of his life, but an outline of my personal knowledge of him. How imperfectly I have succeeded in showing up some of the characteristics that mark so strongly my old teacher—one of the greatest of men—nobody knows better than myself, but in loyalty to, in affection, yes, in love for him, I yield to none.

LISTER IN LONDON.*

BY DR. JOHN STEWART, HALIFAX.

(Paper read by Dr. A. Primrose.)

I THANK you for the opportunity you have given me to join in offering my tribute of love and reverence to our great teacher and master. I shall speak of his work in London.

When Sir Wiliam Ferguson died, the government looked for one worthy to follow so distinguished a surgeon. And the choice fell on Lister, who had become famous for his scientific work and for the introduction of antiseptics into surgery. So in 1877, he left Edinburgh and moved to London.

He brought with him Mr. Cheyne (now Sir), myself, and two juniors, Mr. Dobie, now of Chester, and Mr. McArthur, of Penrith, who was the first to resect a patella. No doubt he left Edinburgh for London as he felt it would enable him to promulgate his views more widely, and reach the surgical men of the world more readily. Further, there were in London some very strong and influential opponents of his teaching. He thought he could meet this opposition better by being in the great metropolis.

His first lecture was delivered in London in 1877 on 1st October. The theme was on the action of germs on milk and putrescible fluids. and he told of his experiments on these. Mr. Cheyne, his nephew Mr. Godlee, now president of the Royal College of Surgeons, and I helped to get ready his exhibit for the lecture. Mr. Godlee had prepared some very handsome colored drawings. Mrs. Lister was busy that day assisting.

Lister was well received. The spacious lecture hall was filled with eager listeners, and there were present many distinguished physicians and surgeons. He was now a distinguished member of the Royal Society and not a few of the fellows were present. On the staff of King's there

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was Dr. George Johnson and Mr. John Wood. It was thought that the latter was none too friendly to Lister, as he had aspired to the chair which the latter had been called to fill. For some time Lister had a dull time of it in London. There were no patients and only a dozen or twenty students. The first clinical lecture was to be on 8th October, the case of a poor young Scotchman with a psoas abscess. There was found present pulmonary tuberculosis.

On 26th October, 1887, Lister operated for fracture of the patella, and this occasioned much comment. One of the leading London surgeons said: "Now, when this poor fellow dies, it is proper that some one should proceed against *that man* for malpractice. Then came a case that called for amputation at the hip joint. When this was exhibited later and there was no constitutional disturbance and the patient was happy without pus, the eyes of the students were opened. Mr. Wood next day asked Mr. Lister to supervise the antiseptic details of a case where he was going to operate for goitre. The wound healed without pus. So it was that Lister won the hearts of those he came in contact with.

The operation for ovariectomy had yielded such a high death rate that it had been forbidden in King's Hospital. The results of Lister's work led to the granting to Mr. Wood permission to operate on one case. The operation was performed with every care and the patient made an excellent recovery.

I was with Lister in a number of his operations in private practice and in this way I met a number of the leading surgeons of the day, one of these being Sir James Paget.

One case of unique interest occurred. A young lady consulted Sir Prescott Hewett, who found she had a tumor growing from the neutral aspect of the scapula. Sir James Paget was called in and he suggested that Mr. Lister should see the case. There was much risk in securing a ready healing of such a large wound, and Lister accepted the responsibility. The tumor was removed readily, Sir James Paget and Sir Prescott Hewett being present.

I should like to record my impressions of Lister as a surgeon and as a teacher. It was said by some that he was not a good operator. Well, what is meant by a good operator? Operating is the smallest part of surgery. It is by the results we judge. Up to Lister's time no man had had such brilliant results. I think if we were the patients we should prefer a careful, painstaking, thoroughgoing surgeon to any one with ambitions for a spectacular exhibition to the gallery. There were men who could amputate a breast with two strokes of the knife, and leave the wound to granulate. Lister might spend an hour, carefully remov-

ing it, clearing the axilla, and bringing the edges of the incisions together. There is no one who hesitates as to who was doing the best operation. But I should be sorry to convey the impression that Lister was inexpert or hesitating in his manner. Where there was need for speed he was not lacking in this accomplishment of the surgeon. And all who were familiar with his plastic operations must have admired these. The bold, swift, unerring strokes of his incisions, the perfect apposition of the flaps, the provision against tension, gave him better results than I have ever seen elsewhere. In one thing more Lister was a truly great surgeon—he was of infinite resource. No unlooked-for accident, no complication found him unready. He was pathologist as well as surgeon. And yet one thing more: There is no man who remembers Lister's hospital work who was not impressed by his human spirit, his tender regard for the mental and physical suffering of the poor who came under his care.

As a teacher Lister was peerless. His earnestness, enthusiasm, and energy were contagious, and inspired "such love and faith as failure cannot quell." He made it his business to define and expound principles. His teaching at the bedside was invariably interesting and practical, and it had then all the novelty of a new-found world. His lectures were models of English speech in clearness and simplicity, and the musical voice in which he spoke, made them a delight. Through all his teaching there ran a golden thread of high moral earnestness. I find in my journals occasional quotations which illustrate this attitude of his mind. Here is one: "To intrude an unskilled hand to such a piece of Divine mechanism as the human body, is indeed a fearful responsibility." And the practical bent of his mind is shown in this: "Act upon thoughts as they come and strike the iron while hot. If I have ever done anything it has been by acting upon thoughts as they occurred to me."

Lister was more than a great teacher, he was a great example. Of him, as of the great Duke, we may say, "Whatever record leap to light, he never shall be shamed."

As dresser, clerk, and House Surgeon, I came into close relations with this great man for several hours of almost every day during a total period of two years and a half, and I never heard him speak a word, or saw him act in any way which can now cloud a happy and blessed memory. It is impossible for me to think of such a personality as having ceased to exist. Rather I cling to the thought in Matthew Arnold's noble poem:

“O strong soul, by what shore
 Tarriest thou now? For that force,
 Surely, has not been left vain!
 Somewhere, surely, afar,
 In the sounding- labour-house vast
 Of being, is practised that strength,
 Zealous, beneficent, firm!”

A MEMORY AND AN APRECIATION OF LISTER.*

BY SIR HECTOR C. CAMERON, EMERITUS PROFESSOR OF SURGERY,
 UNIVERSITY OF GLASGOW.

(Read by Dr. W. A. Young.)

HAVING been invited to write a short article on Lord Lister, I feel it unnecessary to say anything regarding his great achievements in the domain of surgery and its allied services. These are now well known to every practitioner of medicine and surgery and they have been dealt with since his death from almost every point of view in well-nigh every land and every language. But he was great in character as well as in achievements, and a short reference to some traits of that character as observed by one who was closely associated with him in Glasgow, and who has been honored by his intimate and affectionate friendship to the end of his life, may not prove altogether uninteresting.

One of the first of the characteristics to notice is the constant and grateful recollection he ever showed for those who had been his teachers and had done something to give him the knowledge and the powers he possessed that enabled him to accomplish his work. His father had improved the microscope to such an extent as to make really the instrument that it is, and one that his son made such constant use of. Three other teachers he ever held in the highest esteem—Lindley, who taught him botany, Graham in chemistry, and Sharpey in physiology. He would often say I learned this or that fact from these men, when speaking of some botanical or chemical or physiological subject. Later in life he came under the influence of Professor Syme, his father-in-law, and he frequently expressed his indebtedness to him. His fondness and admiration for Pasteur was very great. In 1867, in an article on the new treatment of wounds he spoke of the “flood of light thrown upon this important subject by the philosophic writings of M. Pasteur.” He

* Abstract of Paper.

said that it was the foundation upon which he had built his own views and practice. He said of Pasteur that "his researches had thrown a light on the dark places of surgery and had changed the empirical treatment of wounds into a beneficent science."

Then it is necessary to note his marvellous patience and power of perseverance in any work which he undertook. No adverse criticism or difficulty in the task in any way dampened his zeal or arrested his energy. They seemed rather to strengthen his determination. The late Sir Henry Butlin in a letter to me said that "such patience is almost inconceivable. Whatever happens, they endure to the end and we are saved."

Another characteristic of Lister was his wonderful power of devising means for surmounting difficulties as they arose in the course of any work in which he was engaged. Sir William Turner once wrote me:

"Your book has recalled many conversations with Lister which I had the advantage of, partly when, as professor in Glasgow, he used not unfrequently to come to Edinburgh to see Mr. Syme, and later when he held the Edinburgh chair. I learned in this way how the fundamental conception entered his mind and developed step by step in all its ramifications. What used to greatly impress me was the wonderful ingenuity he showed in devising methods to meet the difficulties which necessarily arose in the treatment of problems occurring during the evolution of the antiseptic method."

Shortly after Lister went to Edinburgh to occupy the Chair of Clinical Surgery, he was summoned one day by the late Sir William Jenner to see Her Majesty Queen Victoria, at Balmoral. On arrival there, he found the Queen more ill and Jenner more anxious than the nation knew. An abscess of considerable size had formed between the armpit and mamma on one side of the body and was occasioning much pain, restlessness and fever. In due course it was opened, with all antiseptic precautions, the line of incision in the skin having first been frozen by the use of Richardson's spray apparatus. Up to that it had been Lister's practice in such cases to introduce a narrow strip of lint dipped in an oily solution of carbolic acid (1 to 4) through the incision, with the object alike of preventing primary union and of acting as a drain. This practice was followed on the present occasion. Next morning he was disappointed to find that little or no drainage had taken place and on withdrawal of the lint thick pus, similar to the original contents of the abscess escaped in quantity. Local tenderness and fever still also persisted. The same state of matters was found at one or two subsequent dressings. During a walk in the open air (a favorite practice with him when trying to solve a knotty problem), it occurred

to Lister that if he could make use of some aseptic tubular drain, instead of the oiled lint, matters might progress more favorably. Accordingly, on retiring to his bedroom that evening, he cut out a piece of the indiarubber tube of the Richardson's spray apparatus of suitable length, and, having cut holes in it and sewed into one end of it a piece of silk thread, he placed it to soak all night in some watery solution of carbolic acid (1 to 20). In the morning he was pleased to find that the rubber was in no way weakened or altered in structure and, when changing the dressings, he substituted the tube for the strip of lint. At the next dressing he had, as he said to me, "the inexpressible joy" of finding that not only had free drainage occurred into the antiseptic dressings but that the discharge was now very thin and watery. Soon it became entirely serous in character, while it rapidly diminished in quantity. All constitutional disturbance disappeared and very soon the abscess cavity was obliterated and complete healing secured. This was the first occasion on which he ever made use of a rubber drainage tube. On returning to Edinburgh, he repeated the experiment in a case of amputation of the thigh, with the best possible results. He immediately had rubber drainage tubes made by the manufacturers and ever afterwards used them constantly. Similar tubes had been devised and used by Chassaignac early in the century for carrying off accumulations of putrid pus from deep-seated situations; but it is my impression that the idea occurred to Lister quite independently. Whether this be so or not, the use of them, when rendered aseptic, proved a valuable addition to antiseptic treatment.

Another characteristic was the keen interest he took in what seemed common. All phenomena had for him a remarkable interest. Familiarity never dulled the delight with which he watched the methods of nature. There was in all the processes of nature a freshness for him. He had the power of rendering himself "strange to the familiar." Lister was like Newton when he saw the apple fall. It was a familiar sight, but it aroused in his mind a train of thought that revolutionized the science of the world. So with Lister. The familiar had to receive its attention and gets its proper solution.

Lister's attitude towards, and his enquiry into, the causes of suppuration were a good example of the manner with which he regarded, in contrast with others around him, familiar facts and phenomena. He had been for years working at the subject, at least in its theoretical aspects, before coming to Glasgow, and looked upon decomposition and suppuration from an early period of his investigations as the real cause of wound-begotten diseases. As I once wrote elsewhere, "The grief and mental worry arising from his experiences, often repeated, of such fatal

diseases produced in Lister's mind a sense of discontent with things as they were, and this seemed to many of us who were his pupils in strange contrast with the resignation with which some of his colleagues viewed similar experiences. They appeared to regard them as inevitable and quite unpreventable so long as the human body was what it was." But he never admitted to his own mind the inevitableness of either suppuration or its consequences. He was, therefore, fully prepared for the truths promulgated by Pasteur. As Sir Clifford Allbutt has happily put it, "Though Lister saw the vast importance of the discoveries of Pasteur, he saw it because he was watching on the heights; and he was watching there alone."

I shall refer to one other characteristic which I believe to have been the chief mainspring of all Lister's extraordinary industry and perseverance in the work which he had set himself to accomplish, viz., a passionate desire to lessen the sum of human misery and death. He had no great love of Fame. The well known couplet of Pope accurately describes his attitude in this respect:

"Nor Fame I slight, nor on her favours call,
She comes unlooked for, if she comes at all."

When honors came, they seemed always to cause in his mind a sense of surprise and gave pleasure chiefly because he saw in them recognition of the truth and the value of his work. As little had the idea of amassing wealth any attraction for him. When he was in Glasgow he not unfrequently forgot appointments and consultations, being absorbed in the interest of his hospital or laboratory work. But the one thing which gave him pleasure was the knowledge that his doctrines were receiving recognition and steadily progressing in this and other countries. Speaking of his first successful attempts in the treatment of compound fractures at the meeting of the British Medical Association in Liverpool, he referred to "the joy of seeing these formidable injuries follow the same safe and tranquil course as simple fractures." When he received the Freedom of the City of Edinburgh, in 1898, he assured the audience that much and highly as he esteemed the honour, that and every other earthly distinction was as nothing compared with the hope that he had, by his work, in some degree lessened the sum of human suffering and death. I saw him in London shortly after he had been made a Privy Councillor, and in the course of conversation he said to me: "What pleased me far more than even the honour of being made a Privy Councillor was the fact that when my turn came to step forward and shake hands with the King (King Edward VII.), he said to me, 'Lord Lister, I know well that if it had not been for you and your work I would not have been here to-day.'" Some

one had evidently informed His Majesty how entirely abdominal surgery had been rendered possible by his investigations and teaching.

I have left myself no time to speak of Lister's scrupulous truthfulness, of his courtesy, of his appreciation of the work of others and especially of those who were still young men; of his forgetfulness of himself, of his reverence, of the genuineness and simplicity of his Christian faith; but I have, perhaps, said enough to show that our dear master has left us not only a splendid heritage but an exceedingly noble example.

SURGERY SINCE LISTER.*

BY DR. G. A. BINGHAM, TORONTO.

THE subject which has been assigned to me is a hackneyed one. A truly great man has passed into the Beyond, but his life and work are to us a priceless and immortal heritage. His genius divided surgery into two periods, namely, pre-Listerian and post-Listerian. This is true wherever surgery is practised. So many and so great have been the changes in surgery that it is difficult for the present generation to realize them. I can recall the terrible effects of suppuration. In an ordinary amputation how the surgeon dreaded the results of sepsis and the secondary hemorrhage that often came on as the suppuration broke down the process of healing. We can recall the surgeon of those days who would say to his students, "This pus is laudable!" I can remember when the preparation of the surgeon was that of turning up the cuffs of his Prince Albert coat and washing his hands at the tap. In those days the usual treatment for a compound fracture was amputation. Then turn to the ravages of sepsis in the lying-in wards. During one winter session the abdominal cavity was opened only three times, with two deaths.

What a contrast to the daily routine of a modern hospital and its operating rooms! Note the careful vigilance of the head nurse in directing the preparation of tables, hands, instruments and patient. Here comes the patient, wheeled in from the anæsthetic room. The surgeon and his assistant take their places, the field of operation is deftly exposed by the nurse and the first and only thing which comes in contact with that field is the gloved hand and knife of the surgeon.

And now with great confidence he is prepared to expose and explore the hidden places in the human economy. No part is so remote that it cannot be exposed. Even the citadel of life itself, when wounded, may

* Abstract of Paper.

be restored. Pathological conditions of every abdominal and pelvic organ, conditions which a generation ago meant death or chronic invalidism, are now daily corrected and the unhappy patient restored to health and vigor.

Thoracic surgery is making rapid and important advances. Perhaps as striking a contrast as any is seen in the pre- and post-Listerian surgery of the brain. An occasional trephining was done and a blood-clot removed from the surface of the dura, but to open that membrane spelled death to the patient. Now, one suffering from a tumor of the brain is no longer necessarily condemned to an early grave. The membranes are freely opened, the brain exposed in all directions, and the tumor removed.

But there is another aspect of the question which, it seems to me, has not been sufficiently recognized and insisted upon. Prior to Lister's discoveries, when practically every operation was followed by suppuration, who can estimate the weeks and months of untold agony that must be endured by the patient? In view of this inevitable prospect it was the rule rather than the exception for sufferers to decline operation altogether and elect to pass down to death rather than submit to the all but intolerable consequences that must follow the use of the surgeon's knife. Contrast this, if you please, with the smooth and almost painless convalescence of our patients to-day after even the gravest surgical procedures.

PERSONAL REMINISCENCES OF LORD LISTER.*

BY HENRY A. MARCY, A.M., M.D., LL.D., BOSTON.

(READ BY DR. A. A. MACDONALD.)

WHEN in London, in 1870, as a student of Sir Spences Wells, I arranged to go to Edinburgh and see some of the work of Sir James Simpson, but he died while I was still in London. I had an introduction to Professor Syme, but on arriving in Edinburgh I learned that he was very ill, and a few days later I attended his funeral. Among those present was Mr. Lister, who had come to Edinburgh to fill the Chair of Surgery that had been held by his father-in-law, Prof. Syme. While attending the funeral I was cautioned by a young physician of Edinburgh not to have anything to do with Mr. Lister, as he was not in good repute with the profession as "he has some new and strange ideas, which he is trying to establish, to prevent the putrefaction in wounds." Curiosity caused me to seek out this man and study his methods. Mr. Lister received me in a most courteous manner, and spent much time in explaining his

* Abstract of Paper

dressings and theories. He showed me some cases that were doing so well that the demonstration was complete and convincing.

I said to him that I had been through the American Civil War as a surgeon, had taken three years' post-graduate work at Harvard, and had been for a long time studying in London and Berlin, but that what I saw in Edinburgh surpassed everything I had seen elsewhere. The result of the summer's teaching from an accidental meeting with a then comparatively unknown, unappreciated, misunderstood, and much-abused man has had a revolutionary effect on my whole life. It is difficult to say whether one should most admire simplicity of the man, the open-minded, earnest investigator, or the enthusiastic zeal with which he devoted his every energy to a dominating, soul-absorbing purpose. But he was largely forgetful of self-interest. When in Edinburgh I met Bennett and Keith. The latter had now acquired much fame on account of his success in abdominal surgery, which he owed mainly to his thorough-going cleanliness.

In those days feeling was very high. Often would the professors meet Lister and pass him without a word of recognition. I remarked to him one day that it seemed strange the cultured gentleman should act in such a manner, and he replied by saying, "Are the members of the medical profession of Boston immaculate?"

Lister gave the most careful attention to the details of the preparations of all his dressings, such as the lac plaster, the putty with carbolic acid, and his catgut sutures. These latter had received much study and he had found out how to prepare a material that would absorb, was aseptic, and yet last long enough to answer the ends of surgery. The difficulty in securing perfect sterilization of gut and some bad results from this material, induced me to try kangaroo tendon. After many experiments with buried sutures on lower animals, I ventured on their use in man.

A great day for Lister came, when, in 1881, at the International Medical Congress in London, he gave his address on Antiseptic Surgery. He was now Sir Joseph Lister and Professor of Surgery in King's College, but the bitter opposition to him was not dead, and a strong effort was being arranged to throw discredit upon his work. It was known that an organized effort to this end existed. In this coterie were a number of German surgeons.

A few of his friends heard of this. As I had introduced his methods into America, it was arranged that I should lead in the discussion. I spent till four o'clock in the morning on what I intended saying. There was a great audience of four thousand critical minds before me, and I felt a sense of momentary weakness. By beloved friend, J. Marion Sims,

was seated beside and whispered to me, "Now, Marcy, do your best, for America's sake."

What I said I may never know, for the manuscript was abandoned, and the theme dominated both speaker and audience. Some who read this were probably present, but that day's work of those delegates settled forever the acceptance of the fundamental principles of the new science and made the name of Lister immortal.

I last saw Mr. Lister operate in 1890, when we had a personal discussion upon the use of drainage tubes in antiseptic wounds, I maintaining that the serous exudate was of value and should be considered as "the first aid to the wounded."

He admitted the possibility of injury to be derived from drainage tubes, saying that he cut them much shorter and removed them much earlier than when I was his pupil.

We occasionally corresponded, and when in 1892 I published my large book on hernia, I was delighted to receive his approval of dedicating the work to him.

Evolution must ever meet opposition. To the individual leader it means sacrifice in some form, not seldom death, and the great victory is often symbolized by a crown of thorns. Dominated by the inspiration of a deep absorbing faith, such great spirits with unswerving purpose become heroes, if need be, martyrs—the highest prototypes of the great Master. In the establishment of a new government, our Washington, and in modern medical science Lister, are the exceptions, having survived to enjoy the highest honors and receive the blessings of mankind.

PRE-LISTERIAN SURGERY.

BY DR. R. B. NEVITT, TORONTO.

IN 1870-1-2- I was interne in the Toronto General Hospital. The ideal union by first intention was very seldom seen. I can recall only two cases of incision without pus. Suppuration was expected. The operations were amputations, removal of tumors from accessible parts, and emergency cases. Instruments and basins were cleaned after the manner of camper washing his dinner dishes. The silk for ligatures and sutures was cut to lengths as it came from the shop. The operating surgeon wore the oldest coat he had. Scissors, probes, etc., were wiped on a towel or bandage, and used again without special preparation. The surgeon would put his knife in his mouth as a ready place to hold it. The walls of the wound would be carefully closed and sutured, though in a few days that

would have to be all undone to allow of the escape of pus. Under those conditions, septicæmia, erysipelas and pyæmia and death were all too common. Once in a while there would be a good result.

Dr. Hodder operated on a case of epileptiform convulsions, due to a depressed fracture of the skull, by trephining, elevating and removing a portion of the depressed bone, and recovery both from the operation and the convulsions occurred.

Dr. Bethune, in 1873, had a case which I now recognize as having been one of appendicial abscess. The man was desperately ill; the belly wall tight and protuberant; the skin slightly edematous in the region of the superior spine of the ilium. "Pus there! Ought to be let out!" Without a word I put my hand in my vest pocket, pulled out a scalpel, and Dr. Bethune cut down upon the abscess and gave vent with explosive violence to a vast quantity of stinking pus and gas and fecal matter; and this patient got well! As a matter of routine, opening the peritoneal cavity meant death, therefore there was an entire absence of hernia operations and abdominal sections for any cause. Dr. Hodder was doing some ovariectomies, but not in the hospital.

I cannot close this without paying a tribute of respect to the memory of W. T. Aikins. As you know, he enjoyed the reputation, and deservedly so, of being the best surgeon in Ontario. He had an immense practice, extending over this province, and his operative and consultation work was highly remunerative. He was past his prime when Lister published the account of his researches, and instituted his methods. Dr. Aikins, at the top of the profession here, with his hands and time fully and lucratively occupied, resolutely turns away, and once more an humble student, goes across the water on a pilgrimage to the master, and returns an enthusiastic disciple and an ardent advocate of Listerism. Truly Horace has said: "*Vixere fortes ante Agamemnona multi.*"

PERSONAL REMINISCENCES OF JOSEPH LISTER.*

BY DR. ST. GEORGE BALDWIN, TORONTO.

WHAT I have to say may prove somewhat fragmentary. I went to Edinburgh in 1870, and followed the clinical teaching of Lister, and it was plainly evident that we were standing on a new era in surgery. The dressings, lotions and poultices described by those who lectured on systematic surgery, were never seen in his wards. His methods of dressing wounds was entirely different from those in vogue, and his operative surgery had begun to improve. Compound fractures were no longer sub-

*Abstract of Paper.

mitted to amputation, and operations were performed that had not previously been attempted. The field of operative surgery was steadily widened.

I had, however, the privilege of being present on one historic occasion, namely, the first time Mr. Lister used chromic acid catgut as a ligature. He was at that time endeavoring to find some means of producing a catgut ligature that might be safely trusted to hold securely the largest vessels. Having prepared some to his satisfaction, he one day, after the conclusion of his hospital visit, took the house surgeon, Professor Kuster, of Berlin, at that time visiting his wards, and myself down to the Royal Veterinary College, where he placed a ligature on the carotid of a horse. The ligature proved an unqualified success and its subsequent use became general.

He had to contend against much opposition, but those who were closely associated with him were satisfied of the correctness of teachings and practice. His system suffered much at the hands of those who tried to make use of it, and did not attend to the details, and, therefore, had bad results. A noted French surgeon visited the wards of a surgeon who had dressed a wound as he thought on antiseptic principles. There was plenty pus, but the surgeon said to his French visitor that if the discharge were examined microscopically no pus cells would be found. There was a look of incredulity on the French surgeon's face. He must have regarded this system of dressing as a failure, or the whole thing a fraud.

Though recognition came very slowly from the profession, it was not so with the people. They recognized the advantages of the new system. Patients were heard to speak in praise of the improvements, and Lister enjoyed these expressions of opinion, though he never made any boast of them. One of the reasons why he was so beloved by his patients was that he gave them such care and attention. Everything that could be done for them was done. The humblest received the same care as the most important.

He held that when pleural cavities and psoas and lumbar abscess refilled the fluid would be at first serous. It would become purulent when the cavities became so filled as to become irritating or the fluid act as a stimulus to the walls of the cavities. This view was confirmed by a case of empyema that had been operated upon, and when the drainage became compressed the cavity filled with a clear fluid.

Lister belonged to that class, ever limited, who see things with the discerning eye and philosophic mind. Like Newton and Watt, he could deduce laws from his observation of common events. He was a man of many accomplishments. He was an eminent pathologist and physiologist. He was no mean chemist, and loved botany. He was a great philosopher.

He could not observe a phenomenon without seeking its cause, and he never rested until the problem was solved. He made it possible to do all surgical operations that ought to be undertaken. He made surgery an exact science and a perfect art.

With your permission I will now read a brief extract from a letter written by the Principal of the University of London, to Dr. Arthur Lister, on the occasion of Lord Lister's death.

"We are proud to remember on this occasion that he was one of the only two men outside the circle of Royalty upon whom this university has ever conferred an honorary degree. He has been taken from us full of years and signally crowned with honors, and it must be no small consolation to you to know that his beneficent career has left behind it an imperishable name, before which not only his colleagues and disciples of the medical profession, but the whole body of civilized humanity is hastening to lay its tribute of reverent homage."

THE INFLUENCE OF THE RESEARCHES OF PASTEUR AND LISTER ON SURGICAL PATHOLOGY.*

BY MR. I. H. CAMERON, TORONTO.

THIS subject is a difficult one. There is so much that could be said, that is no easy task to say well some of this without becoming "dry as dust." Pasteur established clearly the truth of the doctrine of a *contagium vivum*, and sent to defeat such men as Charlton Bastian, who clung to the view of spontaneous generation. In 1870, Pasteur proved that a certain disease of the silk worm was due to a bacterium. Other bacteriologists were connecting certain diseases with special forms of organisms, and the foundations for bacteriology were being laid.

Lister graduated in medicine in the University of London, in 1852. It is only proper that with our tears at the loss of our master, we should mingle our pæans of triumph, for no mortal man ever yet trod the downward slope to death more full of years and honors. In the words of Cicero: "In such a death there is neither pain nor bitterness, but as a ripe fruit is lightly and without violence loosened from its branch, so the soul of such departs ungrieving from the body wherein its life's experience has lain."

Dr. Lucas-Championnière, of Paris, visited Glasgow in 1868, and became a convert to Lister's teachings. Some years ago he said that "anyone who is really acquainted with the history of surgery in our

* Abstract of Paper.

time knows that the advent of Lister produced a colossal result. It produced in the evolution of our science such a revolution that we ought to judge it as though centuries had passed. We ought to say that the whole of surgery was born from Lister. He succeeded in determining the general laws of repair. An accomplished surgeon and clinical observer, he studied the evolution of a wound down to the minutest detail." Lister showed the causes of failure and their remedy. "Union by first intention has become the law of surgery whatever the tissues or organs involved."

To his heredity, his parents and his teachers he owed much. His father was a man of much talent, and his mother was of the sturdy stock from the north of England. John Lindley, the botanist; Thomas Graham, the chemist; Professor Charpey, the physiologist, and Professor Syme, the surgeon, all took part in making Lister what he was. He began his surgical career by being house surgeon for Sir John E. Erichsen. On Sharpey's advice he went to Edinburgh to take six weeks with Syme. This began his great Scottish career.

Lister was an industrious contributor to scientific and surgical literature. The long list of his papers go to show how wide were his sympathies, and how many were the subjects he touched upon, and how well he did his work. No idle articles came from his pen. On living organisms and their influence in causing disease he was a keen student and advanced epoch making views. He taught that germs were of different varieties and caused different forms of septic disease. He inclined to the view that tetanus was due to an organism. He tried to make all branches of science bear tribute to surgery.

At the opening of the Thompson-Yates Laboratories, in Liverpool, in 1898, Lord Lister was the guest of honor and made the opening declaration. In the course of his address, at which Virchow was present, he rendered great service to the cause of research by emphasizing with all the force of his great authority the need which everywhere exists for men of means looking further than the mere provision of buildings to the establishment of another kind of foundation whereby the purposes for which the buildings are designed may be carried out in perpetuity by the endowment of research itself. On this occasion, also, he made a claim for antiseptic surgery which has been voiced both before and since by Professor John Chiene, of Edinburgh, who, of course, felt freer to speak freely on the subject when he said that whereas Sir James Simpson, by the introduction of the use of chloroform in Edinburgh, had banished pain from operations, so Lister by his antiseptic system of treating wounds, had practically abolished pain in the after history of operated cases, so smooth and serene and uninterrupted is their progress now.

When Lister visited Toronto on the occasion of the meeting of the

British Association for the Advancement of Science, Sir Michael Foster, in proposing his health, said: "That in early life Lord Lister belonged to a society, the members of which call all men Friend, and now in turn, because of his inestimable beneficence and service to mankind, all men the world over call him Friend."

Much of the development of modern physiology has been rendered possible only by the methods which he devised in securing safety in animal experimentation. The departments of obstetrics and gynæcology, of ophthalmology, otology and oral surgery, and of tropical medicine, are no less indebted to him, and in point of fact the whole domain of biological science and all the issues of life and death henceforth do homage to the master.

Lister held that carbolic acid was a most valuable antiseptic, and this we should never forget, but retain as a priceless heritage.

On the occurrence of his death, the Royal College of Surgeons passed this resolution: "On February 10th, 1912, surgery has lost her most brilliant student and her greatest master, England one of her most famous sons, the world one of its most illustrious citizens. . . . His gentle nature, his deep compassion, his courteous and dignified bearing, his imperturbable temper, his resolute will, his indifference to ridicule, his tolerance of hostile criticism, combined to make him one of the noblest of men. His work will last for all time, its good results will continue throughout all ages, humanity will bless him for evermore, his name will be immortal."

But we are come to bury Caesar as well as praise him! And since I am last to speak the funeral words fall to my lot! And so with averted head and hand thrice filled with dust we say our *Ave, Frater atque vale!*

Hail, Master and Friend!

Hail, Master and Mage!!

Hail, Master of those who know!!!

Hail, Master and Friend!

A medical man of unprecedented benefactions, so also was he a man of unprecedented honors, foreign and domestic; but it was characteristic of the humility and the humanity of the man that the last and greatest honor of sepulture in the nation's mausoleum should have been in advance declined and that he should have preferred to pass the morningless and unawakening sleep in privacy beside the gentle, unassuming lady, universally beloved and revered, who had been his faithful helpmeet and companion through so many years and who for almost a score has been abiding his coming in God's acre in Hampstead.

Of these we may surely affirm, without presumption: "Blessed are the dead which die in the Lord! Even so, saith the Spirit, for they rest from their labors and their works do follow them."

URETHRO-VAGINAL FISTULA.
REPORT OF A CASE,

BY S. M. HAY, M.D., C.M.

MRS. D., aged 25, had one child 4 months ago, a very difficult instrumental labor. She was referred to me by Dr. Wilmot Graham, of Toronto. She came complaining of dribbling of urine, day and night, ever since childbirth, her clothing was soiled by day and the bedding at night. The external genitals were much irritated by the constant flow of urine over the parts. Altogether she was in a most miserable condition and was becoming somewhat depressed in spirits.

An examination in my office revealed a most pitiable condition, soiled clothing, odor of urine, eczematous genitals, and a rent in the urethra through which you might easily pass your index finger. The opening extended for about one inch along the urethra, commencing about three-quarters of an inch from the meatus.

As this patient was nursing her baby it was thought best to operate in her own home. The surroundings were anything but ideal. For a few days before operation the patient was given a mixture recommended by Emmet, as follows:

℞
Ac. Benzoic ʒ ii.
Sodii Bibor. ʒ iii.
Aq. Cinn. ad ʒ xii.

Sig:—half an ounce in water 4 times a day until the
urine becomes mildly acid.

This was with a view of improving the condition of the urine, in most cases I consider it very important.

The operation was performed with the patient in the lithotomy position and a large-sized Hanks hard rubber uterine dilator passed through the meatus and on past the fistulous opening into the bladder. This distended the urethra to the fullest extent and exposed well the edges of the fistula. The edges of the false opening were now thoroughly denuded with scissors, care being taken to sacrifice as little as possible of the lining membrane of the urethra. A broad area, however, was denuded on the vaginal surface, probably half an inch in extent all around the opening. With a very small curved needle and fine chromic catgut—No. 1, three rows of continuous sutures were introduced lengthwise with the urethra. The first row was placed close to the urethral edge of the opening, and even embraced a very small portion of the mucous lining of the canal. The second row covered the first one completely, entering and leaving in denuded tissue. The third row covered the second; in this row the needle

entered the vaginal mucous membrane just beyond the denuded portion and embraced the denuded surface down to the second row of sutures. This completed the operation. A small self-retaining hard rubber catheter was introduced to which was attached a piece of rubber tubing. This was to be left in position for a week.

It might be well to mention here that a fistula of this kind is usually supposed to be caused by the use of the forceps. In reality I think it is most generally due to prolonged pressure of the head low down in the vagina, and it could in that case, perhaps, be avoided by the early application of the forceps.

The patient made an uninterrupted recovery and is perfectly cured. No matter how well the operation may be done in these cases, as in plastic surgery on the perineum, we frequently have a partial or complete failure on account of poor nursing and care following the operation. Perhaps most of the credit for good results in this case should be given to my own nurse, Miss Florence Harrison, and to my assistant, Dr. R. W. Wesley, for their skillful care throughout the entire attendance.

550 Palmerston Boulevard, Toronto.

A CONTRIBUTION TO THE PROBLEM OF THE THERAPEUTIC
TREATMENT OF TUMORS THROUGH THE CIRCULATION,
BASED ON CHEMOTHERAPEUTIC EXPERIMENTS
ON TUMOR-BEARING ANIMALS.*

BY PROF. DR. A. VON WASSERMANN AND DRs. FRANZ KEYSER AND MICHAEL
WASSERMANN, BERLIN, GERMANY.

Although during the last few years experimental chemotherapy has been fully established in certain protozoan diseases, chiefly through the classic work of Ehrlich, we are now, as before, still in darkness regarding the possibility of therapeutically influencing endogenous cells; that is, cells newly formed in the organism. In fact, as we approach this problem experimentally the possibility of obtaining success appears to be exceedingly small, even though the problem deals with nothing else than the construction of chemical substances which would attack such endogenous body-cells, but would not affect the normal organism. Whereas these antiprotistic chemotherapeutic remedies should be parasitotropic and not organotropic, to use Ehrlich's terminology, in this case they must be definitely organotropic, but only for a certain part of the organ, namely, the newly-formed pathological tumor cells. In view of

* From the *Deutsche Medicinische Wochenschrift*.

these difficulties and the failure of any success in this direction, it is not surprising that up to the present time the attainment of this goal has been considered an impossibility. Although the chances for the success of such experiments seemed from the first exceedingly small, we, nevertheless, continued work in this direction. It is clear that such experiments, dealing as they do with an entirely new field of research, could, for the present, be carried on only on animals. Thanks to the work of Jensen, and especially to the systematic method of breeding animal tumors (by Ehrlich and his co-workers, as well as other investigators, such as C. Lewin, Bashford, and others), we now possess in the mouse tumors, designated by Ehrlich as carcinoma and sarcoma strains, excellent material for experimentation in this direction.

We shall not discuss the question how far these tumors resemble or are analogous to those occurring in men; this played little part in the solution of our problem, in which we desired to ascertain whether it would be possible to influence rapidly growing tumors by means of chemical agents introduced into the blood stream, at the same time keeping the body cells intact and without endangering the life of the diseased animal. In this respect the problem is identical whether one deals with mouse tumors or with malignant human tumors. In either case the object is to find a remedy which when introduced into the circulation will destroy the tumor cells in the living organism. In establishing our therapeutic results it was particularly important for us to determine whether mouse tumors have a tendency to retrogress spontaneously. From our observations based on thousands of animals, in the strains that we have used, we can assert that none of our tumors disappeared spontaneously, even when treated with ineffective remedies. Of course, it must be assumed that the tumor has reached a certain size—about that of the stone of a plum, or the size of a small cherry—for then it belongs to the resistant forms of growth. Even with rough mechanical treatment, such as strong pressure or pinching, retrogression could not be brought about. Under these conditions a softening and inhibition of the growth are often noted, but these soon cease and give way to further growth and hardening. Even if ulceration is produced, the tumor never disappears entirely. The edges of the ulcer always remain infiltrated with tumor tissues.

This great resistance of the mouse tumors that we employed increased the difficulty of our problem, for in order to destroy the tumor cells it was necessary to use either very powerful agents, or to find a remedy which would attack the life-giving elements of the tumor cells; that is, it was necessary to synthesize nucleotropic substances. It was

clear to us from the beginning that a remedy which would add in any way to our knowledge of the experimental therapy of tumors must be one which would exert a therapeutic action through the circulation. For all remedies that are allowed to act locally upon the tumor, whether they be ferments, rays, or emanations, do not possess the important property which we have pointed out above as being essential; namely, selectivity for the tumor cells, that is, the tendency of the medicament to reach, of its own accord, the tumor cells. A remedy requiring direct application to the tumor cells would not permanently solve the problem. Our problem, therefore, consisted in finding chemical agents which, when injected into the blood stream, would automatically reach and attack the tumor cells.

A starting point for our experiments came to us about a year ago, when at the suggestion of A. von Wassermann, of the Chirurgical Department of Professor Borchardt in the Rudolf-Virchow Hospital, we undertook to determine whether freshly excised carcinoma would live longer in blood from diseased patients than in normal blood serum.

For the determination of the viability of the carcinoma cells, we employed, at the suggestion of A. von Wassermann, sodium telluride and sodium selenide, which had been previously used for the same purpose by Gosio. These salts have the property of forming a black or red deposit of the reduced metals in the presence of living cells. The results of these tests were negative, as in both conditions a deposit of the metal was observed; that is, the normal serum had apparently not destroyed the tumor cells. On further examination, Wassermann observed that the selenium and tellurium were deposited only on certain definite parts of the carcinoma cells. The metals were deposited in places corresponding to the epithelial cells, and in the interior portions representing the most active elements of the tumor. This induced v. Wassermann to determine further whether there also existed in the living tumor-bearing animal an affinity between the tumor cells and selenium and tellurium salts. With this aim in view, we proceeded in the following manner: The tumor-bearing mice, which had been inoculated with carcinoma obtained from Professor Ehrlich, received local injections of solutions of the salts directly into the tumor. In a number of such experiments, after these injections, especially with the salts of tellurium, there developed a softening and liquefaction of the tumor which opened exteriorly, a process which in some instances led to a complete cure without relapse. Apparently in these two salts, substances were discovered, which, when injected into the tumors, led to a destruction of the latter.

We next injected these substances directly into the circulation. The

technique of these intravenous injections is a difficult procedure, as it frequently requires as many as eight injections to cure the tumor.

These intravenous injections of tellurium and selenium salts gave negative results. Besides, the salts were quite toxic, so that they could be used only in small quantities. The cause of the failure was clear; it lay in the fact that tellurium and selenium, injected intravenously, did not reach the tumors. It became necessary, therefore, to synthesize such compounds of these metals as would pass more or less directly from the circulation into the tumors. The principles of the method were announced by A. von Wassermann at the Königsberger Naturforscherversammlung in 1910, when he stated, on the basis of Ehrlich's theories, that it might be necessary in similar conditions to construct a means for conveying a remedy to the desired part of the organism. It is clear that the problem of bringing selenium and tellurium to the tumor can be solved only by the formation of such compounds of these substances as would diffuse rapidly in the living organism.

Mouse carcinoma especially is poorly supplied with blood-vessels, and most of the nourishment is obtained at the periphery. Wassermann selected certain coloring matter of the fluorescin group as a medium for the rapid diffusion of these elements into the circulation. The next step was to unite selenium and tellurium loosely to certain fluorescin colors, like eosin, erythrosine, cyanosin and others.

In this manner, several hundred new chemical substances were prepared without any noteworthy progress. It was noteworthy that several samples of the same compound prepared in the same chemical manner would act differently from a biological standpoint even after preservation in sealed glass tubes, in the absence of oxygen and light. It was clear, therefore, that delicate biochemical factors came into play, which were the cause of our failures.

We obtained after a long time a preparation composed of eosin and selenium, which required certain chemical treatment in order to make it active. This remedy is readily soluble in water.

Healthy mice, averaging 15 grams in weight, can tolerate a dose of 2.5 mg. injected into the caudal vein. The most evident symptom is a deep reddening of the whole animal, which begins immediately after the injection and continues with increasing severity, especially around the mouth, eyes and legs.

If a tumor mouse is injected with the same amount this symptom is not observed after two injections. After the third injection it is evident, on palpation of the tumor, that it has softened; this softening is still more evident after the fourth injection, so that, to the touch, the

tumor no longer feels hard, but resembles instead a fluctuating cyst. The fluctuating sac becomes smaller, the tumor capsule becomes flabby and too large for its contents, and in fairly large tumors the outline of the circumscribed tumor is no longer present. After the fifth and sixth injections, the resorption continues; the sac grows smaller, and, if no other disease occurs, the tumor is finally entirely absorbed. Within ten days the tumor has healed completely. Of course, complete cure does not always follow this course, especially with large tumors, in which the destruction and the liquefaction and softening of the tumor contents proceed rapidly and violently. In this case animals usually become sick, feel cold, and die. This occurs so often and constantly that there can be no question that the sickness has some connection with the resorption of the liquified tumor contents. In these cases the animals succumb to the toxicity of the resorbed tumor masses.

As regards the question of relapse in apparently cured animals, it may be stated that we have kept these animals under observation for several months without the occurrence of a relapse. We have convinced ourselves that even if only minute remnants of the tumor cells remain, which happens chiefly when owing to practical reasons it is impossible to inject intravenously sufficiently large amounts of the substance, a relapse occurs rapidly.

If an autopsy is performed on a mouse in which the tumor presents to the touch the condition of softening or liquefaction, the macroscopic picture of the tumor, which normally is solid and greyish white, is colored intensely red and is surrounded by a colorless or only faintly reddish field. The remedy has deposited itself selectively in the tumor. It is also noticed that the tumor has more or less disintegrated and consists of crumbled masses, which are chiefly heaped up around the tumor and are entirely separated from the growth.

If an autopsy is performed on a mouse in which the process of healing has sufficiently progressed so that the tumor has been replaced by an empty sac, then in the place of the tumor one finds a lard-like detritus, which is colored in different shades of red, depending upon the intervals between the inoculations and the autopsy, and which has no trace of the original appearance of the tumor. One can, therefore, see macroscopically the therapeutic effect of these remedies.

The way in which this eosin-selenium compound can cause through the circulation in so short a time (within eight to ten days) the healing effect in the tumor, was thoroughly studied by von Hanseemann.

At the suggestion of von Hanseemann, the same experiments were

made on two mice with spontaneous tumors, that is mice in which the tumor was not brought about experimentally by inoculation.

One mouse is still living, without relapse, three months after the cure, the other died fourteen days after the disappearance of the tumor. At autopsy, no macroscopic signs of the tumor tissue could be found.

The question of the behavior of this remedy towards the various kinds of tumors occurring in mice was also tested on one sarcoma and four different so-called carcinoma strains. We are indebted to Professor Ehrlich for the sarcoma and for three carcinoma strains; the fourth carcinoma strain was obtained from Professor Schilling. No difference in the behavior of these strains toward the remedy could be observed. It seemed to us as if Ehrlich's sarcoma was brought more readily to a softening and cure than the carcinoma; here, however, the fact must be emphasized that in order to make the conditions more difficult we selected an especially hard carcinoma.

Upon the basis of these facts we can state with certainty that it is possible, with the aid of a specially prepared eosin-selenium compound introduced into the circulation, to bring about a softening and resorption of the mouse tumors, and if the size of the tumor is not too large in proportion to the body weight of the animal, a complete cure without relapse.

This establishes the fundamental scientific fact; that in spite of previous views to the contrary, it is not impossible to reach and destroy a tumor by the selective action of chemical compounds through the circulation. We wish to emphasize the fact, however, that we have no basis to indicate that this remedy would behave in a similar manner towards human tumors. We have not as yet approached this question. But it seems possible that with continued systematic efforts, progress in human tumor therapy will be made. Since it has now been established that we possess in selenium and tellurium substances that are capable of destroying living tumor cells and that we have also found it possible by means of suitable chemical agents to reach the tumor cells through the circulation and so cause a curative action, it seems evident that biochemistry must be looked to for future progress in this field.—*Medical Times*.

The meeting of the Ontario Medical Association this year should be one of the best in its long and successful history, May 21, 22 and 23.

CURRENT MEDICAL LITERATURE

MEDICINE

UNDER THE CHARGE OF A. J. MACKENZIE, B.A., B.D., TORONTO.

INSOMNIA.

In the *Clinical Journal* of August 9, 1911, Hutchison has this to say as to the use of hypnotics. He thinks it must be admitted that in the minds of some doctors there is a morbid dislike to make use of hypnotics—they talk vaguely of “establishing a habit”—and patients say they would rather sleep badly than have recourse to drugs, just as some people would rather be constipated than take a pill. That attitude in regard to hypnotics the author believes to be surely wrong. To begin with, he does not know what exactly is meant by “establishing a habit” in the case of hypnotics, and thinks the idea dates from the time when opium was practically the only hypnotic known. But we have many others. Pharmacology has given us a totally different class of hypnotics, far superior to opium in most cases, and which do not form a habit in the opium sense at all. No one gets a craving for bromide, for instance, nor even for trional nor veronal, in the same way as he does for opium. It is only opium and alcohol which get that peculiar grip of the nervous system. Others, again, think that if a patient is always taking hypnotics he will get so that he cannot sleep without one. Unless hypnotics are very expensive he does not think it would matter if a patient did always take them. If the drug does not do any harm he does not see why a patient should not take it for the rest of his life. But there certainly are hypnotics which can be taken for long periods, even for years, without apparently producing any bad effects. This is not true of all hypnotics, but it is certainly true of some. Further, we have to remember that if the taking of hypnotics is a bad habit, so is insomnia; the latter is a bad habit of the brain, and there is no better way of overcoming it than by the prompt use of a hypnotic. If one forces the brain to sleep by artificial means for a few nights on end one will often restore to it its natural habit of sleep, whereas if the brain is left alone a habit of sleeplessness is apt to be established.

The author agrees, of course, that the use of hypnotics requires certain precautions. It is not to be left entirely in the patient's hands, and we must choose our hypnotic according to the requirements of the particular case. It is also good to change the hypnotic from time to time, just as in habitual constipation we vary the aperient the patient takes. And

during the time the hypnotic is being taken we should see that all the channels of excretion in the body are kept active, that the bowels are open, and that the kidneys are working actively. It is in people with damaged kidneys and slow elimination that hypnotics are dangerous. If the kidneys are healthy, there is but little danger from them in reasonable doses.

With these preliminary remarks the writer passes on to consider the different hypnotics which we have at our disposal, and indicates the special uses of each. We may arrange them in an ascending order according to their power, beginning with the weakest and passing on to the strongest. We should remember in giving hypnotics in any particular case, not to give a stronger one than is absolutely necessary, but begin low down in the series and find out what degree of potency is required in that particular case. We should always try to take the trick with the lowest card if possible.

Arranged in this ascending order there is first of all alcohol. Alcohol is certainly a hypnotic. There is a popular delusion that alcohol is a stimulant, but it is really a sedative. People do not want a stimulant, but an anesthetic, and alcohol is one; that is why there is always a craving for it amongst human beings. The sedative effects of alcohol are sometimes most markedly displayed in insomnia, particularly in depressed, sorrowful, worried old people. A glass of hot whisky and water the last thing on going to bed will sometimes act very satisfactorily, not only as a direct sedative to the nerve-cells, but as a carminative, expelling flatulence where that is contributing to the trouble. This use of alcohol is specially serviceable, as the author has indicated, in the insomnia of old and feeble people, but at all stages of life it may be found quite sufficient to make that difference in the nerve-cells which will enable sleep to take place. Alcohol, however, should not be given to the plethoric type of person as a night-cap, and one must also be careful in ordering it to people who have feeble self-control, and who have inherited the alcohol craving. But these, after all, are very exceptional. It is only a small minority of the human race who have that peculiar idiosyncrasy to alcohol which makes them become habitual drunkards. Most sane human beings can be trusted to take a night-cap of whisky and water or brandy and water every night without risk if that should be necessary. We should remember that if we are afraid to run risks in medicine we will never do anything. That is eminently true of the use of hypnotics. If we stand paralyzed for fear something may happen we will do no good. We must have the moral courage to run risks in treatment. The man who dare not run risks is never a great therapist.

Next to alcohol come the bromides. Thirty grains of bromide of ammonium at bedtime, combined with a little aromatic spirits of ammonia and peppermint-water, is a good mixture. Bromide has the advantage of being perfectly safe in every way. It produces a calming of the brain, on the top of which natural sleep follows, and in a mild case of insomnia it may be sufficient.

Next he puts bromural, which is a new preparation. It is a urea compound containing 35 per cent. of bromide and is absolutely safe. He does not think one could kill himself with bromural if he tried. We cannot paralyze the vital centres with it, and, like bromides, it is very useful for inducing the condition which predisposes to natural sleep. Five, ten or more grains at bedtime acts quickly, in twenty minutes or so, and is followed in many cases by natural sleep, which may last for several hours. It is a drug which is not yet well known, but which probably will take a large place in the treatment of insomnia in the future owing to its promptitude and its absolute safety, and the fact that it is eliminated easily.

Next to bromural in order of potency he puts trional, and thinks it has displaced sulphonal. In doses of 10 to 20 grains it acts fairly promptly, and has a somewhat prolonged action, which is specially useful in cases in which a patient tends to sleep too short a time.

Next he would mention paraldehyde, the only disadvantage of which is its abominable taste and smell, which it imparts to the breath all next day. Its chief advantage is that it acts very quickly, perhaps more quickly than any hypnotic we have. It is not at all depressing; we can give large doses without producing depression of the heart at all. So in cardiac disease, where the heart is weak, paraldehyde is safe to use. Its smell and taste can be overcome somewhat by flavoring with syrup of orange, but that does not get over the fact that next day it is excreted by the respiratory passages and makes the breath smell of it. If it were

Next comes veronal, one of the newer hypnotics, which has already come to be the most popular hypnotic in general use, and in some ways rightly so. It is extremely certain in its action even in moderate doses. Five grains is a large enough dose, and one need never go above 15 grains. It induces a sleep which is nearly natural, which is fairly prompt, and which is continued for several hours, and it has no particular depressing effects next day. It seems also to be eliminated by the kidneys with a fair degree of ease. The only disadvantage, or its chief disadvantage, is that it is so powerful. It is needlessly powerful for many cases, and if taken inadvertently in a large dose it may prove fatal. There are, indeed, many cases on record of veronal poisoning, but the

author suspects they are mostly intentional. Used with anything like discretion it is quite safe. There is a compound of veronal which he mentions, called sodium veronal or medinal, which is much more soluble, and therefore acts more quickly, and it can be used for administration by the rectum if the patient is unable to swallow.

In a group by itself comes opium, which does not belong to the ascending series which the writer has described, and which should be reserved for cases of insomnia due to pain. It used to be employed for all cases of insomnia, but now we have so many much better and safer drugs that there is no need to use it except when pain keeps the patient awake.

Chloral also stands by itself. It is one of the oldest hypnotics, and one of the most widely used, generally in doses of $\frac{1}{2}$ to 2 drachms in syrup. Such a dose given well diluted at bedtime acts rapidly, and it is a good hypnotic in the sense of inducing sound sleep. But it is rather depressing to the heart, and it should therefore be avoided in cases of heart weakness. There is a preparation allied to chloral, a combination of chloral and formamide, called chloralamide, which is safer than chloral, but takes some time to act. It is not depressing. The dose is 30 grains to 1 drachm. It is best given in a little warm alcohol, because it is not very soluble in water, or it can be given in the form of the elixir chloralamidi. It is an admirable hypnotic and probably should be used more. There is nothing better in fevers.

In closing he states that it is often an advantage to use a combination of hypnotics. For instance, if we have a patient who does not fall asleep quickly on going to bed, we may in such a case combine a hypnotic which acts rapidly with one which has a slower action. We will thus put the patient to sleep quickly, and keep him asleep.

The combination of half a drachm of paraldehyde and 10 grains of trional in an ounce of *mistura amygdalæ* fulfils this purpose very well, or one may give a combination of bromide or bromural with chloral or trional. Where, on the other hand, the trouble is that the patient falls asleep naturally and wakes early, we should select a slowly acting hypnotic which can be taken at bedtime, but will act later on. Such a drug is chloralamide.

Suppose we are trying to get a patient into the habit of natural sleep who has been taking hypnotics for some time, and who has got back to such a condition that he will probably be able to sleep without them, but is obsessed with the idea that he will not sleep unless he has his drug—an idea which is fairly sure to fulfil itself and produce insomnia. In such a case sodium veronal is useful. It acts quickly, and after

it does begin to act the effect is prolonged, and the patient gets several hours of natural sleep. If, for example, he goes to bed at 11 o'clock, and at 12 finds he is still restless, he may take 5 grains of sodium veronal, and by 12.30 he probably will be asleep and remain asleep until next morning. In that way we give him something to fall back upon, and the knowledge that he has such an aid gives him the confidence he requires to insure his sleeping naturally.

THE VALUE OF ERGOT.

Hoyt (*Medical Council*) asks how many of us in general practice think how old our ergot is, or from whence we obtain it, or what knowledge do we have that the product we are using is active at all. For use by the mouth he thinks the most practical preparation is still the old fluid extract. It is best to obtain it in small amounts direct from some reliable manufacturer and physiologically treated. The idea that ergot is limited in its action in producing tonic contractions of the pregnant uterus is pretty generally believed, but a glance at the later literature on this subject would soon widen this view. Ergot is a powerful vasomotor stimulant acting very much as does adrenalin, namely, stimulating the sympathetic vasomotor nerve endings. While its action on the circulation closely resembles adrenalin, it differs in this, that while adrenalin is extremely fugacious and almost immediately destroyed in the body, ergot acts much longer, is probably active when given by the mouth and therefore rationally indicated in conditions of failing circulation. Practically ergot is becoming more and more useful in conditions of low blood pressure due to central depression, as in circulatory failure from acute infectious fevers, in delirium tremens, surgical shock, etc. Ergot is a very old remedy in chronic types of diarrhea and deserves a renewed trial here. One of the most interesting phases of the physiological action of the active pressor substances in ergot, is the resemblance to adrenalin, in the difference between their action on the pregnant and non-pregnant uterus. This has been largely shown by Dale, Dixon, and Cushny, and has a most important clinical bearing. Ergot is commonly used in uterine hemorrhage from many different causes, but in functional types of dysmenorrhea it is generally thought to be contraindicated; from the experimental evidence, however, it should have a fair trial in this direction, and he knows that ergot for some time back has been used empirically for this purpose. He emphasizes, first, the importance of having a fresh and active preparation; second, the value of the drug as a powerful vasomotor stimulant; third, its possible value as a uterine sedative.—*American Medicine*.

TREATMENT OF ACUTE OEDEMA OF THE LUNGS.

In most instances acute pulmonary œdema is the consequence of Bright's disease, consequently the treatment, that is to say the prophylactic treatment, is that of chronic nephritis; prolonged absolute milk diet until the albuminuria has been reduced to a minimum along with tannic acid, and a little aloes to counteract its constipating action. Later on, the patient must be put on the lacto-vegetarian diet, the action of the heart being improved by the administration of digitalin in cardiogenic doses. The next thing is to try and reduce arterial tension, with which object in view we may prescribe as follows:

Sodi nitritis, gr. xv.
 Sodii lactatis, dr. i.
 Sodii silicatis, dr. ss.
 Potassi bicarbonatis, dr. ii.
 Aquæ dest., fl. oz. iv.

ft. solutio. Three or four tablespoonfuls every hour for four hours.

Conclusions.—(1) To bring about acute pulmonary œdema there must be a renal factor, a cardio-arterial factor and a broncho-pulmonary factor and a broncho-pulmonary factor with an accidental cause to set the process going. In this instance the precipitating agent was a chill.

(2) Immediate energetic treatment comprising free blood-letting will in eight out of ten cases snatch the victim from the very jaws of death.

(3) We must not allow ourselves to be puffed up by this momentary success, but must enquire into the causative conditions in order that their influence may be combated and the patient spared a recurrence, otherwise the conditions may be such that no intervention will prove of avail.—Albert Robin, in *Medical Press*.

 THE NEW PSYCHOLOGY AND THERAPEUTICS.

Normal psychology as taught in the curriculum has not, in the opinion of Morton Prince, Boston (*Journal A. M. A.*, March 30), any particularly close relation with the problems of medicine, particularly psychotherapy. He does not say it is useless, but for the most part it does not clear up the medical problems included in pathologic processes and practical therapeutics. In order to make psychology applicable to medical problems, it should explain the facts, give the why as well as the how and what. The processes which are involved in pathologic disturbances, Prince says, are just those which have been neglected in normal psychology. The psychologic teaching has left to the unprofessional

psychologist, the physician the task of searching out the mechanisms concerned in the abnormal manifestations with which the physician has to deal. He gives the idea of what sort of psychology should be taught to meet the requirements of medicine, and particularly of therapeutics, as follows: "1. A study of the subconscious (whether regarded as psychical or physiologic) in all its relations. This embraces the content of the subconscious as the storehouse of conserved experiences, the influence and mechanism of the subconscious in determining conscious and physiologic process; its incubations; its automatic manifestation—motor and sensory; its syntheses, dissociations, etc. 2. The phenomena of hypnosis and allied conditions. 3. Suggestion and its phenomena. 4. Memory as a process (as distinguished from its content and phases) and the part played by this process in conscious and subconscious activities. 5. Amnesia and its mechanism. 6. Fixed ideas, conscious and subconscious. 7. The dissociations and syntheses of personality and their mechanisms. 8. The emotions and feelings as forces which determine conscious and subconscious processes, dissociations, syntheses and activity, and which control the visceral functions of the body. 9. The emotional instincts as impulsive forces which determine mental activity and conduct. 10. The sentiments as complexes of ideas and emotions, and the part played by them in determining so-called personality and reactions to the environment. 11. Phenomena of repression, resistance, conflicts, inhibitions, etc. 12. The mechanisms of thought. 13. Complex formation. 14. The influence of complexes as conscious and subconscious settings or contexts in determining judgments, attitudes of mind, point of view, the meaning of perceptions, etc. 15. Associative processes and reactions, including word and galvanic reactions. 16. Habit processes. 17. Automatism. 18. The mechanism of dreams. 19. The influence of the mind on the body. 20. Fatigue." This, he says, is a rough and incomplete summary of the psychologic knowledge which, in his opinion, should be included in the medical course, but it will do for a beginning.

THE TOXIC ACTION OF DIGITALIS ON THE HEART.

Bailey discusses this topic in the *American Journal of the Medical Sciences* for August, 1911, and reaches these conclusions:

1. Toxic effects of digitalis and related bodies may be divided into three periods with regard to their occurrence and severity. These toxic symptoms may usually be discovered in their earliest stages by careful and frequent sphygmographic observations: (1) Period of vagus stimulation; (2) period of depression of conductivity with masked vagus ac-

tion; (3) period of marked muscular irritability with depression of contractility.

2. Digitalis heart block may be differentiated from ordinary heart block and from vagus influence as a causative factor.

3. Muscular irritability may be the first symptom observed, the other stages being short in duration and easily overlooked.

4. Irritability from digitalis must be differentiated from the progress of the disease by careful observation of the different functions as evidenced by combined tracings.

5. With therapeutic doses the rise of blood-pressure due to vasoconstriction is so slight that it may be disregarded, but with toxic doses it becomes of extreme importance.

6. Cumulation occurs with digitalis and may last for a considerable period.

7. Vomiting is probably a central effect of digitalis and is a sign that absorption is occurring.

8. Pulsus alternans may be relieved by digitalis in some cases.

SURGERY

UNDER THE CHARGE OF A. H. PERFECT, M.B., TORONTO.

A NEW FORM OF SALVARSAN.

It is authoritatively announced that Professor Ehrlich has succeeded in perfecting a new form of salvarsan, his famous "606," which overcomes many of the difficulties of use and objections as to after effects of the original preparation. The improvement consists of a method of making the drug completely soluble in distilled water without the addition of alkalis, and the solution thus made is neutral, or normal in reaction, thus obviating both tedious preparation and injurious effects, can be used safely in larger doses than the old salvarsan, one of Neosalvarsan, in addition to its neutral reaction and non-irritating effects, can be used safely in larger doses than the old salvarsan, one of the drawbacks to the use of the latter being the amount of alkali required for its solution and the consequent destruction of tissue around the site of injection.

RESISTANCE OF NEPHRECTOMIZED PATIENTS.

Pousson, in the *Journal D'Urologie for July, 1911*, says that he has never been able to attribute bad results to chloroform narcosis when decapsulation or nephrectomy has been performed in grave cases of Bright's disease. The quantity of urine, urea, or salts has even increased after operation. Cocaine spinal anesthesia has no effect on the kidney. Stovaine spinal anesthesia decreases the quantity of urine, even to 300 c.c. in twenty-four hours. This persisted from two to three days, and in one case for nine days. In sixty-six per cent. of cases the urea and sodium chloride were diminished; phosphates not affected; albumin, neither constant nor abundant; microscopically, epithelium cells, leucocytes, and red blood cells have been found, but no casts. He believes chloroform to be a better anesthetic for kidney operations. He has done decapsulation and nephrectomy with somnoform with no ensuing kidney disturbances attributable to the anesthetic. Clinically, a patient with but one kidney has good resistance to infections and auto-intoxication. He cites a case of a tuberculous patient who contracted syphillis, and in whom mercury caused a severe syphilitic stomatitis. After nephrotomy this patient tolerated mercury well. Save one case, in a patient of fifty-six years, in whom the right kidney had been extirpated for cancer three years before, and who succumbed to anuria after a trauma of the remaining kidney, Pousson had no cases which gave any light on the resistance of the kidney to traumatism. He has operated twenty times upon patients with but one kidney. The primary operation was: Tuberculosis of the kidney, ten; infected hydronephrosis, one; pyonephrosis, two; colon bacillus pyelonephritis, one; calculus pyonephrosis, one. Two died; but not of kidney insufficiency. The secondary operations were; Double ovariectomy; nephropexy, and after that laparotomy for tuberculosis of the perineum litholopaxy; ovariectomy; anal fistula; amputation of thigh; ovarian cyst; nephrotomy; stretching of sacral plexus; lumbar hernia; hysterectomy; exploratory laparotomy; extirpation of breast cancer with axillary glands; nephrolithotomy; amputation of arm for sarcoma; lombotomy for hematuria; then, five years later, nephrotomy and decapsulation of kidney.—*N. Y. Med. Journal.*

RESULTS FROM APPENDECTOMY.

Scudder and Goodall give an analysis of results years after operation in 640 cases of appendectomy, the time varying from five to twenty-one years. They found that the patients in drained cases are more likely to have a hernia in the cicatrix following operation, while the

patients of undrained cases are less likely to have a hernia in the cicatrix following operation. Ninety-four and six-tenths per cent. of the patients were in good health and were relieved by the operation, and four and six-tenths per cent. had poor health after the operation. Analysis of the cases making up this percentage is given, showing that there was definite pathological reason for the persisting poor health. It may be concluded in general that in this series of appendectomies the operation benefited the patient, that comparatively few unnecessary operations were done, and that there were no distressing sequelæ. It has been impossible to determine, of course, with absolute accuracy the occasion for postoperative pain. There were eighty-eight patients in whom it was thought that the discomfort, which was of varying degrees of severity, might be occasioned by adhesions following operation. This group of eighty-eight cases has been secured after a very careful study of the reports of these patients, the eighty-eight cases being 13.7 per cent. of the 640 cases. The statement sometimes made that appendectomy is associated with distressing sequelæ is unfounded in this series of cases. Likewise the statement that appendectomy is often followed by no relief to symptoms is not borne out by these patients, ninety-four per cent. having been completely relieved.

DILATATION TEST FOR CHRONIC APPENDICULAR INFLAMMATION.

Bastedo speaks of the usefulness of dilating the colon with air to determine the presence or absence of a latent or chronic appendicular inflammation. To make the test a colon tube is passed eleven or twelve inches into the rectum and air injected by means of an atomizer bulb. If, as the colon distends, pain and tenderness to finger point pressure become apparent at McBurney's point, there is appendicular inflammation. He has compared the test in a number of instances with the Rovsing test and finds this much the more certain; but at times, after moderate dilatation with air, the Rovsing method of forcing the air back into the cæcum may be used with advantage. He sounds a warning that if most of the air is not allowed to escape before withdrawal of the tube, colicky pains are likely to ensue. The test is not needed in an acute case, and in such would be contraindicated; neither is it required in an undoubted chronic case. But the indication for the test is a suspected chronic or latent appendicular inflammation, or any persistent digestive or abdominal disturbance, in which no cause can be found for the trouble.—*Am. Journ. of the Med. Science.*

THE TREATMENT OF GONORRHEAL URETHRITIS.

The first principle, says Breakstone, *Am. Jour. Clin. Med.*, Jan., 1912, in the treatment of gonorrhoea is, as in all inflammations, REST. By "rest" in this case, we mean both sexual and urinary rest. Of course, it is impossible to get urinary rest, so we must be content to limit our efforts in this regard to sexual rest (although we may minimize urinary irritation); and so I instruct my patient to avoid any erotic influences, to sleep in a cool room on a hard mattress, and always to lie on his side. Sometimes it becomes necessary for me to instruct him to tie a towel around his waist, with a knot at his spine, so that it will be impossible for him to sleep on his back with any degree of comfort.

The measures named nearly always are sufficient to procure sexual rest. However, in obstinate cases (and I wish to emphasize here, that in some cases the sexual passion is increased in gonorrhoea), to avoid chordee, I prescribe, in addition to the measures I have already mentioned, a capsule made up of 2 grains of powdered camphor and one of powdered opium, to be taken on retiring. This dose should be repeated in case any tendency to chordee develops during the night. The patient should always be instructed to empty his bladder before retiring.

The next step in the treatment is to lessen the acidity of the urine, and thus avoid any further local irritation. This is best done by a mixture of the following composition: Copaiba, drs. 6; liquor potassae, drs. 2; camphor water, oz. 1. Label, A teaspoonful, followed by two glasses of water, three times a day, after meals.

Diuretics.—The best diuretic is water, and this is the only one that I ever use. I instruct my patient to drink from eighteen to twenty glasses of water a day. This dilutes the urine and renders it less acid.

Antiseptics.—The only urinary antiseptic that I use is hexamethylenamine. It can be demonstrated that formaldehyde is found in the urine within half an hour after taking this drug. Hexamethylenamine has no effect on the gonococcus, but it keeps the urine aseptic and prevents a mixed infection.

Urinary Sedatives.—The only remedy of this nature I use is the time-honored copaiba, as shown in the prescription just given. This drug has been used for this disease for more than five hundred years, and we still go back to it to-day. At the Vienna Allgemeines Krankenhaus, which has the largest venereal clinic in the world, the attending physicians prescribe copaiba exclusively. They have printed prescriptions ready to hand out to their patients.

There are cases, it is true, in which copaiba produces a bad effect on the stomach. In such, I substitute cubebs or buchu, or I just give

potassium acetate with no other urinary sedative. On the whole, the bad effect that copaiba has on the stomach is rather a good thing in most patients, since this will decrease the appetite and therefore limit the amount of food eaten. It must also be remembered that in a few instances copaiba will produce a rash, which quickly subsides on the withdrawal of the drug.

It is very important to instruct a patient as to diet. All stimulating things must be prohibited. Anything that will increase the acidity of the urine, such as meats and other nitrogenous food, should be very strictly limited. Spices, tea, and coffee should be allowed in but very small quantities. Vegetables, milk, and such like bland foods may be taken in abundance. Overfeeding should be carefully avoided, as in this, the same as in any other infection, we should be careful not to introduce more food than is necessary. In this way it is in our power to limit the local congestion. Above all, everything containing even the smallest quantity of alcohol must be absolutely prohibited. Lemonade, coda water, pop, ginger ale, and all carbonated waters may be allowed in abundance.

THE OPEN TREATMENT OF FRACTURES.

S. D. Van Meter, Denver (*Journal A. M. A.*, March 25), remarks on the unsatisfactory results too often obtained in the treatment of simple fractures, especially of the femur and humerus, and the modern tendency of surgeons to adopt a more radical procedure in these cases; he also reports several cases. The devices for the open method are numerous, but they may practically be divided into two classes—those to be removed after the repair of the fracture and those to be left *in situ*. The former have the apparent advantage of not leaving any foreign body in the tissues, but he thinks that this danger has been greatly overestimated and that it does not counterbalance the danger of infection from the method. Moreover, it is a physical impossibility to secure perfect immobility with these appliances and their external portion makes dressings more difficult and are more liable to cause pain from accidental touchings, etc. Of the apparatuses to be left *in situ* none, he says, is to be compared to the steel plate devised by Arbuthnot Lane. These plates seldom cause irritation and if necessary can be easily removed. Some points, however, are worth considering in their use. Not to mention asepsis and careful handling of the soft tissues, the time of operation is to be considered. Generally it is better to wait until the devitalizing effect of the traumatism has passed and the tissues have

obtained a certain degree of resistance to infection. The proper selection of the drill is of some importance. One which will make a hole just large enough to allow the screw to be driven without risk of splitting the bone is best. The Lane forceps are best for holding the bone in position, but the ordinary forceps will suffice. A fair trial of the open method will, Van Meter thinks, justify the following conclusions:

"1. The open treatment of fractures insures practically anatomic reduction.

"2. We have overestimated the danger of making a compound out of a simple fracture.

"3. The Lane plate is the simplest and most efficient fixation device yet designed.

"4. It insures immediate immobilization, which in turn means rapid repair and reduction of pain to a minimum.

"5. Its application is easier and requires less mutilation and smaller incision than the use of wire.

"6. It is a great aid in the management of compound infected fractures.

"7. Direct mechanical fixation of fractures greatly simplifies after-treatment.

"8. The x-ray has shaken our confidence in manual reduction and will force us to more accurate methods."

GYNÆCOLOGY

UNDER THE CHARGE OF S. M. HAY, M. D., C.M., GYNAECOLOGIST TO THE
TORONTO WESTERN HOSPITAL.

GYNECOLOGICAL HINTS.

By Ralph Waldo, M.D., New York.

Cysts of the corpus luteum usually remain small in size and so very little general attention has been paid to them. They are of quite frequent occurrence and many times give rise to marked pain. When found they should be removed and the wound in the ovary closed with fine catgut. Many times this condition has been mistaken for appendicitis.

In eclampsia when the cervix is rigid and it is found impossible to empty the uterus without severely lacerating it, vaginal Cesarean section is indicated. The wound in the cervix and uterus is best closed

with chromicized catgut No. 2. It is preferable to leave the vaginal wound open about an inch in the median line and drain between the anterior wall of the uterus and bladder. The drain should be removed on the fifth day.

Cesarean section in eclampsia greatly expedites delivery, and convalescence is very much smoother than when the cervix and lower portion of the uterus have been extensively lacerated by a severe forcible delivery.

In performing Cesarean section great care should be taken not to perforate the bladder. This accident can be prevented by keeping close to the uterus when the bladder is being separated from it.

In cases of operation for eclampsia ether is a much safer anesthetic than chloroform. In all cases where chloroform is used bicarbonate of soda should be freely given, if possible before the anesthetic, to prevent acidosis. It is also good practice when ether is given, but it is not as essential.

In the kidney type of eclampsia, especially when there are no epithelial or blood casts in the urine, the prognosis is much better than in cases where there are extensive changes in the liver.

The general treatment of eclampsia should be the same as in acute uremia in the non-puerperal state.

In all cases of puerperal eclampsia the prognosis is grave, especially if it continues after or follows delivery.

In all cases of eclampsia the blood pressure should be taken, and if it is above 120, it is very essential to institute appropriate measures to reduce it. Frequently the pressure will be 200 or above.—*International Journal of Surgery, January, 1912.*

DEFLORATION PYELITIS.

Wildbolz (*Corresp. Blatt, f. schweizer Aertze, January 1st, 1912*) points out that the greater frequency of pyelitis in woman than in man must be due to the greater facilities for infection which the female genitals offer. The relation of pyelitis to pregnancy is now well established, but its relation to defloration has scarcely been recognized. It is so common for newly married women to complain of painful micturition that the physician usually ignores this symptom, and this non-committal attitude is encouraged by the fact that the condition disappears, as a rule, spontaneously; but when the symptoms of pyelitis persist they are frequently attributed to intestinal catarrh, which is a fairly common incident on a honeymoon, or they are traced to an influenzal infec-

tion of the urinary tract. Sometimes there are symptoms of violent cystitis which are followed in a few days by unmistakable signs of pyelitis, such as renal pain, pyuria, and high fever. When the clinical picture is that of cystitis the physician naturally thinks first of a gonorrhoeal infection, and the husband's protestations of innocence are often met with courteous scepticism, even after an examination of the urethra has revealed no discharge. That such a slight injury as defloration may cause pyelitis is shown in three cases of acute pyelitis in newly married women seen by Wildbolz. In each case nephrectomy had been performed for renal tuberculosis; the urine had subsequently been repeatedly examined, and marriage had been permitted only after it had become normal and sterile. The pyelitis, which flared up directly after marriage, was at first attributed to a recurrence of tuberculosis due to the activity of a focus of disease previously latent in the kidney; but the urine was found to contain a pure culture of the colon bacillus, which was present in the bladder and the pelvis of the kidney. The patients, whose husbands were innocent of urethritis, made a complete recovery. In the course of the last few years the writer has seen five other cases in which painful micturition was complained of by newly married women who had not previously suffered from this condition. In the urine of one, a Gram-positive diplococcus was found; in the purulent urine of the remainder there was a pure culture of the colon bacillus. None of the husbands suffered from urethritis, nor was the gonococcus ever found in the patients' urine. Cystoscopy of three of the patients showed that only the region of the trigonum was inflamed. The pyelitis was invariably unilateral, being confined to the right side in four cases, and to the left in one. The following case also supports the writer's contention. The wife of a medical man suffered from a severe attack of pyelitis on the right side due to the colon bacillus. There had been two similar attacks within the last four months, and each had begun with symptoms of cystitis, which were followed in a few days by fever, violent pain, and swelling of the right kidney. The patient rapidly made a complete recovery, but two weeks later there was another attack with high fever, renal pain, and vesical tenesmus. Only the colon bacillus was found in the urine. The husband stated that each attack had been preceded by coitus twenty-four hours earlier, and that the patient had suffered from vaginismus. The husband was elderly, and on account of ill health had not cohabited with his wife for five years. On the renewal of sexual intercourse, the wife suffered from vaginismus, kraurosis vulvae, senile atrophy of the vagina, and a tendency on the part of the external genitals to bruise readily. Whether the infection spread by the ureters, the lymphatics, or the blood

*From the *Deutsche Medicinische Wochenschrift*.

stream is not certain; but the fact remains that pyelitis followed coitus with striking regularity, and that it never recurred after coitus had been abandoned. The recognition of defloration and coitus as causes of pyelitis is most important, as it relieves both the physician and the husband of the embarrassment which a diagnosis of gonorrhoea often causes. When internal urinary antiseptics fail to cure the condition early, local treatment should be employed. It is important that even slight symptoms of cystitis in newly married women should not be ignored, for it may be the starting point of pyelitis gravidarum, which is relatively common in primiparae. Rovsing has reported three cases of pyelitis which he traced to trauma of the hymen; but with this exception the condition appears to have passed unnoticed in current medical literature.—*British Med. Journal*, March 2nd, 1912.

OBSTETRICS AND DISEASES OF CHILDREN

A BRIEF ANALYSIS OF FORTY CONSECUTIVE CASES OF PLACENTA PREVIA.

Edgar (*American Journal of Obstetrics and Diseases of Women and Children*, July, 1911) states that the cases he records constitute the first forty instances of placenta previa treated in the Manhattan Maternity during the period from February, 1905, to February, 1911.

The terms central, partial, and marginal have been applied to the conditions only after complete dilatation or complete dilatability of the os.

Of the 40 cases 15 occurred and were treated in the outdoor service; six were found among the tenement-house cases and transferred into the hospital; two were treated in their own house; and seventeen were ambulance or emergency cases.

There were ten cases of central, nine of partial, and twenty-one of marginal placenta previa. The hemorrhage occurred at the fifth lunar month in one case, at the sixth in two, at the seventh in six, at the eighth in twelve, at the ninth in five, and at the tenth in fourteen cases.

In seventeen instances the hospital was called to or received the case immediately after the first sign of hemorrhage. In nine cases the hemorrhage persisted for a few hours, several days in five instances, several weeks in six, and several months in three. Of the forty cases ten had the vagina packed with gauze to control the hemorrhage before being received by the hospital. Seven were examined by the ambulance or other physician prior to admission. Twenty-three cases were exclusively treated by the hospital from the onset of the bleeding.

The general line of treatment in these forty cases consisted in controlling the hemorrhage and securing cervical dilatation by means of cervical and vaginal gauze packing. Completing dilatation by means of bimanual cervical dilatation, the Pomeroy hydrostatic bag, or the modified de Ribes bag. Completing delivery by version and breech extraction, or spontaneously. The postpartum packing of the uterus to prevent further bleeding, and the use of hypodermoclysis, rectal and venous infusion, or other shock treatment. The induction of labor.

In no instance was it considered that vaginal or abdominal Cæsarian section was called for.

Cervical and vaginal gauze packing was used in thirty-two of the forty cases, as a hemostatic and cervical dilator. In four instances the packing was applied twice; in two, three times; and in one case repacking was used to control the oozing over a period of forty-eight hours. In sixteen of thirty-two cases (50 per cent.) the packing alone was sufficient for causing dilatation. In the remaining sixteen subsequent means of dilatation were called for. One died undilated.

The modified de Ribes hydrostatic bags have not been popular in hospital service for placenta previa, and in only three instances was this method to control hemorrhage and secure dilatation used, namely, a marginal one and in two partial cases.

The disfavor in which the modified de Ribes bag was held was founded on the belief that in central and some partial cases an unnecessarily early placental separation was caused, with subsequent internal concealed hemorrhage, and also with high fetal mortality.

On the other hand, the Pomeroy hydrostatic bag was employed in seven instances. These included three central, three partial, and one marginal. The Pomeroy bag, not entering the lower uterine segment to the extent that the de Ribes bag does, has not the objectionable features of the latter.

Rapid bimanual dilatation of the cervix was employed in twelve instances, but in only two cases as a primary measure, the remaining ten having been subjected to a preliminary gauze packing.

Version to complete labor was resorted to in twenty of the cases, and was followed by immediate breech extraction.

The forceps for the same purpose was brought into use in six cases.

Breech extraction in breech presentation was performed in five cases.

The postpartum packing of the uterus as a preventive of further bleeding was and is a routine measure of the hospital in placenta previa cases.

The author considered it necessary in the forty cases to induce labor in nine instances, namely, one at the sixth month, five at the seventh, two at the eighth, and one at term. The means employed was cervical and vaginal gauze packing in four, the Pomeroy bag in three, and the modified de Ribes bag in two cases.

Spontaneous delivery was permitted to end the labor in eight instances. It is of interest to note that all of these were of the marginal variety of placenta previa. Seven of these eight cases were first packed; one only had no treatment.

Of the mothers, three died, a maternal mortality of 7.5 per cent.

The first of these cases was a woman, aged twenty-seven, ii-para, eight months pregnant, partial variety of placenta previa, and was received by the hospital from an ambulance in profound shock, the vagina packed with gauze and the cervix thick and one and a half fingers dilated. In spite of the usual shock treatment the patient died two hours after admission undelivered.

The cervix and vagina were repacked after admission, the hemorrhage being controlled, but the extreme shock did not warrant Cæsarian or other attempt at delivery.

The second, an alcoholic, died on the fifth day from double lobar pneumonia. A third was brought to the hospital profoundly exsanguinated. Under ether the cervix was thoroughly dilated, and in one hour, by Nos. 3 and 4 Pomeroy bags. Version and breech extraction was then performed. Shock was treated by venous infusion and other means. A profuse postpartum hemorrhage followed and the patient died.

Of 41 children, there being a twin pregnancy, 15 were stillborn, and six of those born living died within twenty-four hours of delivery.

Fry, writing on the same subject, has collected 161 cases, with five maternal deaths, and alludes to Holme's previous report of 1,029 cases treated by eleven operators, with a mortality of 3.3 per cent. Fry's personal experience embraces 38 cases, one terminating fatally. Fry holds that the safest method of delivering a woman suffering from placenta previa is purely an obstetric problem, and its decision should rest with obstetricians. Experience clearly demonstrates that maternal interests are guarded best by evacuation of the uterus as soon as diagnosis is made. Large dilatation of the cervix has no place in the treatment of placenta previa. Version by the podalic method is never advisable unless uterine action has softened and dilated the cervix sufficiently to insert the hand. Slow delivery of the infant should be substituted for extraction. Extraction implies the use of active measures, a "vis a fronte,"

whereas the birth of the infant should be mainly by uterine force, a "vis a tergo."

Hemorrhage being unavoidable and incidental to dilatation of the cervix, the method requiring the least degree of dilatation necessary to perform version will naturally be expected to give the least hemorrhage, and after dilatation has been obtained in sufficient degree to allow the insertion of one or two fingers further continuation of the process is likely to endanger the integrity of the soft parts. In other words, the artificial dilatation sufficient to perform bipolar version is comparatively safe, while that necessary for the insertion of the hand and podalic version is dangerous.

After version has been accomplished the leg, breech, and body of the infant successively plug the cervical opening, and by pressure against the area of uteroplacental detachment prevent the further loss of blood. Bleeding being absolutely under control every effort should be made by slow delivery to secure dilatation and thereby prevent laceration of the lower uterine segment. Too often, in the delusive hope of saving the life of the infant, is that of the mother further endangered by active efforts at extraction.

Anesthesia should be discontinued after having performed version, and uterine action should be hastened by directing an assistant to rub the fundus of the uterus, and by encouraging the patient to make use of her auxiliary muscles to supplement the uterine force. In multiparæ the average duration of labor under these circumstances is one hour or one hour and a half.

The temptation to assist the birth of the infant by active efforts at extraction must be set aside in the interests of the mother. Danger is not over with the successful termination of labor. Hemorrhage after birth of the infant is due to placental adhesion, uterine inertia, and laceration of the lower segment of the uterus. When due to adhesion the indication is to detach manually and remove the placenta. The retractile power of the lower uterine segment is deficient and adds greatly to the danger of postpartum hemorrhage when the placenta is previa. Proper application of the intrauterine tampon of sterile gauze is a most valuable agent in safeguarding the patient from the disastrous consequences of further loss of blood.

Regarding the indications for abdominal Cæsarian section, this operation is advisable in central placenta previa complicated by an undilated cervical canal. Not only must the cervix be undilated, but the tissue must be hard and unprepared for artificial dilatation. This condition exists only in about five per cent. of all cases of placenta previa and is almost never met with in multiparæ.

Contraindications for abdominal Caesarian section in placenta previa are, first, excessive loss of blood before the opportunity arises for performing the operation; secondly, a soft and dilatable cervix; and, thirdly, a partial or marginal variety of placenta previa.

Previous attempts to dilate and deliver the case by the natural passages, the use of gauze tampons and rubber bags to control hemorrhage, place such cases on the undesirable list, and if subjected to surgical skill the Porro operation should be substituted for Caesarian section. *Therapeutic Gazette.*

RADICAL CURE OF HERNIA IN CHILDREN.

Martin-Du-Pan reports fifty-eight cases of inguinal hernia in children, operated in by the method of Lorthioir of Brussels. The distinctive features of this method consist in resection of the hernial sac at the highest possible point without opening the inguinal canal, and the leaving of the hernial stump free, without sutures or ligature. The procedure was based on the fact that in cases of recurrence after operations with suture of the stump, the scar of the sutured portion was found at the distal end of the new sac, suggesting that the suture had produced a depression in the peritoneal surface at the internal ring, favoring recurrence. With the stump unligated there remains a raised surface at the level of the internal ring which prevents the gut from slipping into the canal. The operation is so quickly performed and insignificant that even very young children can be operated upon with safety. A two centimetre incision over the external ring is sufficient. The sac is most easily identified by bringing up the testicle into the wound; it is then separated from the cord, drawn down as far as possible, and cut across. In children over three years old with widely open inguinal canals, the author inserts one or two catgut sutures uniting the pillars. The skin incision is closed with Michel's clamps. In the series of 58 cases there was but one recurrence; this took place within twenty-four hours and was due evidently to abnormal mobility of the cecum, the appendix being found in the left sided hernia. The author prefers the operation to bandage support in infancy, stating that the latter is often badly borne, ineffective, and favors testicular ectopy. The operation was performed even in poorly nourished infants and led to marked general improvement. Brief histories of fifty-one cases accompany the article.

PERSONAL AND NEWS ITEMS

ONTARIO.

During a discussion of the problem of caring for the insane at the Board of Control, Toronto, Controller McCarthy made the startling statement that a surgeon examining a man sent to jail on the suspicion of insanity was paid \$5 if he found him insane and nothing if he found him sane. The regulation put a premium on insanity.

Dr. Hastings, Medical Health Officer for Toronto, states that in London there are 6,500 beds for infectious diseases, and 3,000 in reserve for smallpox. On this basis there ought to be at least 425 beds in Toronto for such diseases. There are only, however, not more than 125 beds, or one to every 3,000, instead of one to every thousand of the population.

The Canadian Hospital Association elected the following officers unanimously for next year: President, Miss M. J. Morton, Collingwood; Vice-Presidents, Dr. Donald Robertson (Ottawa), Dr. H. A. Boyce (Kingston), Miss Rogers (Niagara Falls), Dr. Lincoln (Calgary), Dr. E. H. Young (Kingston); Secretary, Dr. W. J. D. Dobbie (Weston); Treasurer, Miss Matheson (Toronto.).

After a careful investigation into the filtration plant for Toronto, the report is handed out that the plant is in good condition, that it has been well constructed, and that the water will reach the limit of 98 per cent. pure.

The residents in the northwest part of Toronto are strongly opposed to the locating of the Isolation Hospital on the proposed site on the corner of Davenport Road and Bathurst Street.

The vital statistics for March, issued recently by the City Clerk, Toronto, show that 800 births, 301 marriages, and 594 deaths were reported during the month, as against 792, 370 and 598, respectively, for the same month in 1911. The figures showing the number of deaths that occurred from various diseases during the month indicate a pleasing abatement in the mortality due to scarlet fever. They are as follows: Tuberculosis, March, 1912, 25; 1911, 26; scarlet fever, 1912, 4; 1911, 17; diphtheria, 1912, 13; 1911, 12; measles, 1912, 3; 1911, 3; whooping cough, 1912, 2; 1911, 1; typhoid fever, 1912, 3; 1911, 4; infantile paralysis, 1912, 1; 1911, 0.

A considerable increase in the number of cases of diphtheria is indicated by the monthly health statement issued yesterday by Dr. C. J. O. Hasting, the Medical Health Officer, Toronto. There were 157 cases in March, as against 96 in February, and 101 in March last year. A gratifying decline is shown, however, in the number of other diseases prevalent

in the city. In March, last year, there were 441 cases of scarlet fever, as compared with 152 in February, and 163 in March this year. Twelve typhoid cases were reported during the month, as against nine in February, and 58 in March, 1911. There were only two cases of measles last month and one in February, while in March, last year, no less than 87 cases were reported. Two cases of smallpox and 72 of tuberculosis were reported in March, 1911; last month there were no cases of the former and none was reported for the latter.

Though the Guelph General Hospital has been improved recently, in accordance with the Government inspector's orders, by erecting a nurses' home and an isolation hospital, it does not meet with his approval, and he has intimated that the Government grant may yet be withheld if the desired improvements are not made. The directors of the hospital have asked the City Council to submit a by-law for \$25,000 to the people to make the hospital second to none in any respect.

Those interested in the various charities of Toronto have recommended that a commission be appointed with the object of preventing overlapping. From the city, the government, and other sources, there is expended annually some \$400,000. An effort should be made to prevent the improper expenditure of money. There are in Toronto about 63 organizations dispensing relief, and this opens the way to duplication of effort.

The deputation from Hamilton that visited some American cities found that a suitable hospital for children with accommodation for 25 beds would cost \$40,000. This is higher than was expected.

One of the topics of discussion at the recent meeting of the Canadian Nurses' Association was that of raising the standard of the nurse. It was felt by all that the nurse should be a welleducated woman before entering upon her period of training.

Miss Brent, of the Children's Hospital, Toronto, said at the Hospital Association that at least 50 per cent. of the patients in the Toronto hospitals were immigrants who should not have been allowed to land.

Dr. W. A. Harvey has been awarded one of the Bait Memorial Fellowships for Medical Research. He went from Toronto to pursue his studies at Cambridge.

The officers of the Trent Valley Medical Association are: President, Dr. Kidd; Vice-President, Dr. Simmons; Secretary-Treasurer, Dr. Farncomb.

Medical staffs of the Toronto General, St. Michael's, and the Sick Children's Hospitals are going to publish a clinical quarterly.

The hospital at Copper Cliff was burned down. It is said that the loss in building and appliances amounted to \$50,000. It is to be rebuilt by the Copper Company, which formerly built it.

Dr. R. S. Pentacost, Toronto, has sailed for Vienna, where he will spend a year in post-graduate studies.

Two new scholarships are announced by the University of Toronto. One, to be known as the James H. Richardson research scholarship, is provided for by a fund of \$10,000 given by Mrs. W. Freeland, the daughter of the late Dr. James H. Richardson, of the medical faculty. The scholarship is of the value of \$500 a year.

Mr. W. J. Gage, of Toronto, has given \$60,000 for a sanitarium at Weston for tubercular children.

The Helm estate will be divided as follows: \$20,000 to the hospital in Port Hope, \$20,000 to Cobourg, \$6,000 to the Children's Hospital, Toronto, \$50,000 to the Toronto General Hospital, and \$6,000 to the Muskoka Free Hospital.

During the last three years of Dr. Sheard's regime as Medical Health Officer of Toronto the cost to the people of health matters was \$63,000, \$79,000, and \$84,000, respectively. During the two years of Dr. Hastings' incumbency of the office the health affairs of the city cost \$152,000 and over \$200,000. This is going it some!

Dr. R. W. Bell, chief inspector of the Ontario Board of Health, has been in Magnetawan, dealing with an outbreak of some thirty cases of smallpox.

Dr. F. T. McMahon, of Toronto, is recovering from his recent illness.

Dr. Roberts, of Hamilton, has advised that an Isolation Hospital be erected at a cost of \$100,000.

Mr. J. W. Alexander, Bowmanville, President of the Dominion Organ & Piano Company, has purchased the property now known as South Park, comprising about six acres, with a fine brick residence, and made a gift of it to the town of Bowmanville for a public hospital. The citizens, in a whirlwind campaign, subscribed in one afternoon a sum sufficient to equip the hospital. Many contributions have been received from old friends of Bowmanville residing in the United States and all over Canada.

A number of cases of smallpox have broken out at Porcupine. Dr. J. H. Parker, of Toronto, has gone to take charge of these cases, and do what can be done to prevent others from catching the disease.

QUEBEC.

Included in the supplementary estimates which were laid before the Quebec House recently are increased grants to both McGill and Laval Universities. The McGill subsidy is augmented from \$3,000 to \$25,000,

while Laval, Montreal, gets a subsidy increased from \$4,000 to \$25,000, and Laval, Quebec, received the same augmentation.

The report of the Dispensary for Tuberculosis in the city of Quebec is of a most encouraging character. During the past year 358 patients applied for treatment. Of 64 were not affected with the disease, and 20 were thought to be in a position to pay for their treatment. This left 274 to be cared for. Of these, 37 were in the last stage and have died; 125 have been improved, and a goodly number of them have gone back to work. Of the 274 patients, 100 have been treated at home by one of the dispensary physicians. Miss McGreevy made 1,284 visits to homes where the disease existed or was supposed to exist. No less than 60 dwellings have been disinfected.

The Medical Society of Portneuf had a very successful re-union in February in the home of Dr. Antoine La Rue, at Newville. Many interesting topics were discussed. The officers are: Dr. A. La Rue, Newville, President; Dr. Armand Narcotte, Saint-Basile, Vice-President, and Dr. A. Gabury, Cap Santé, Secretary-Treasurer.

In the Montreal General Hospital there was a deficit of \$25,000 as the result of the year's work. The income for the year was \$138,000. When the new addition is completed it will cost \$200,000 a year to run the institution.

An attempt was made before the Quebec Legislature to amend the Medical Act so as to enable osteopaths to practise their system. The bill was defeated by 32 to 23. The Premier took strong grounds against the proposed amendment.

Dr. Laberge, Medical Health Officer for Montreal, has submitted his report. He states that 59,685 children were examined, and that 27,349 revealed some condition of ill-health or some physical defect. No less than 19,843 suffered from diseases of the mouth, decayed teeth, or gum affections. It was necessary to send home 1,416 children. Many were found to be unvaccinated.

The total number of indoor patients in the Montreal General Hospital for 1911 was 4,146, an increase of 500 over the previous year.

MARITIME PROVINCES.

Scarlet fever has been very prevalent in St. John's, Newfoundland, for some time.

The annual report of the New Brunswick Asylum, issued by Dr. J. V. Anglin, the Medical Superintendent, shows that the daily average of inmates was 540. Since 1848, when the asylum began, 7,245 patients have been admitted, 2,874 have been discharged as cured, 1,211 as improved, and 2,324 have died.

The Board of Health for New Brunswick has appointed a committee, consisting of Drs. McManus, Sprague, and Hubbard, to investigate infection in connection with the lumber camps.

A short time ago Lieut.-Governor Tweedie opened the James Hammet Hunn Hospital. Mr. Dunn gave liberally to the founding of the institution in his native town of Bathurst.

WESTERN PROVINCES.

Several doctors were elected to the Legislature in the recent election in British Columbia. Hon. Dr. H. E. Young was not opposed.

The Government of British Columbia is giving \$35,000 and the people locally is giving a similar amount towards the erection of a hospital at Nelson.

Some time ago there was a fire in the Isolation Hospital, Edmonton, that did considerable damage.

The new St. Paul's Hospital, Vancouver, has had a commencement made towards its erection.

Calgary is to have a smallpox hospital, and steps are now in active progress for its early erection.

Vancouver Medical Association has passed a number of resolutions condemning the practice of dividing fees. A copy was sent to each member.

Action was brought against a doctor in Vancouver and damages to the extent of \$2,500 given against. He had temporarily put up a fractured leg and sent the patient into the hospital without stating that the plaster cast was only intended as a temporary appliance, and that leg would require proper attention. When the mistake was discovered the patient brought action.

In the Alberta Legislature, Mr. Gunn drew attention to the great need for medical men in some districts, and urged that the Government should do something towards subsidizing medical men who would go into these remote and new districts. Premier Sifton is to give the matter his best consideration.

Dr. Andrew Croll, of Saskatoon, has obtained the diploma of F.R.C.S., Edinburgh. He is a graduate of Dundee and Edinburgh Universities.

Mr. Langley, of Redberry, in the Saskatchewan Legislature, said: "The Medical Council of Saskatchewan is a close corporation occupying unfairly a privileged position in the province." This was said when discussing a medical bill.

Smallpox appeared in Regina. The cases have been carefully isolated and the spread of the disease averted.

The physicians of Western Manitoba have formed an association and elected the following officers: President, Dr. J. S. Matheson; Vice-President, Dr. L. M. Moore; Secretary-Treasurer, Dr. H. O. McDiarmid; Executive Committee, Drs. Latimer, Hicks, and Clingan.

Dr. G. M. Bowman of Regina, has given up his practice and is succeeded by Dr. Connell, of Indian Head.

The Brandon Hospital has adopted a rule that all cases supposed to have an infectious disease must be examined by three physicians before admission. This applies to tuberculosis also.

FROM ABROAD.

Franz Von Winckel, Emeritus Professor of Obstetrics, Munich, died recently at the age of 85. He was a noted and careful student of obstetrics.

As one reads from time to time the exposures published in the *British Medical Journal* and the *Journal of the American Medical Association*, some of the patent medicines on the market, one becomes indignant, and wonders why such things are permitted. The law should put a stop to this method of gulling the people.

Prof. Poncet, of the Academy of Medicine, Paris, comes out with the statement that he has made cultures of the tubercle bacilli from the perspiration of consumptive patients, and declares that the disease may be communicated in this way.

Dr. Thomas McRae, son of Col. David McRae, of Guelph, and who has been in connection with Johns Hopkins Hospital for the past 16 years, has been appointed Professor of Medicine in Jefferson Medical College, Philadelphia, to succeed Professor James C. Wilson, resigned.

The will of the late Lord Lister, the discoverer of the antiseptic system of treatment in surgery, which was filed recently, disposes of an estate valued at \$3,308,330. It gives \$50,000 each to the Royal Society, the King Edward Hospital, and the North London University College Hospital, on condition that his name should be associated with the bequests. There is also a bequest of \$100,000 to the Lister Institute for Preventive Medicine.

Dr. H. O. Walker, widely-known Detroit surgeon, died as the result of pneumonia. He was 69 years of age and for many years had been prominent in national medical circles.

It is interesting to watch how the world moves. From the daily

press, news is gathered that the first marriage, under the law demanding a certificate of health on the part of both bride and bridegroom, took place recently in Chicago. The object of the law is mainly to prevent mental defectives marrying; but it will stop some others as well. It is thought the law will do much good.

Juvenile crime in France has increased by 20 per cent. in the last five years. The number of criminal offences in the republic rose from 252-621 in 1889 to 600,000 in 1910.

A number of influential Siberians are petitioning the Ministry of Education in St. Petersburg to allow women to be admitted to the medical faculty in the University of Tobolsk. The petitioners point out that there is a wide field for women doctors in Siberia, where it is often difficult for settlers to get medical aid.

Radium is the most costly matter sold commercially. Its present price is 400,000 francs for a gramme of bromide, or over \$2,250,000 an ounce avoirdupois, and the price is likely to increase. Up to the present time it has been difficult for buyers and manufacturers to agree on the real quantity of radium contained in the article sold. When the international standard is officially adopted commercial products will naturally be compared with this standard.

In Nyasaland there were last year, as far as known, 57 cases of sleeping disease, with 21 deaths. No trade routes had been closed.

During January of this year there were 49,229 deaths from the plague in India. The Provinces of Ugra and Ondh suffered most.

The University of London is to have a new site, and an effort is being made to raise £1,000,000 for suitable buildings.

It is announced on good authority that the Home Secretary, Mr. McKenna, will move for the appointment of a Select Committee to enquire into the sale of patent medicines. This is a step in the right direction. Australia has already done much in the way of useful legislation.

The Local Government Board has placed pulmonary tuberculosis on the list of diseases calling for notification. For some years it was optional, but now it is made compulsory.

The Board of Health for New South Wales has placed infantile paralysis on the list of diseases calling for compulsory notification.

Dr. John Herr Musser, of Philadelphia, died recently at the age of 55. He held the position of Clinical Professor of Medicine at the time of his death. He was a brilliant teacher, and an indefatigable writer.

Report from Indianapolis, Ind., states that on March 23rd, the Federal Court decided adversely on the suit of three manufacturing companies against the State Food Commissioner and the State Board of Health, who had excluded from sale in Indiana foodstuffs containing

sodium benzoate as a preservative. This decision upholds the right of the State to prohibit the sale of preserved foodstuffs.

Dr. J. T. Ainslie Walker has for several years been making investigations on the subject of Government control and standardization of disinfectants. The subject is an important one.

The June issue of the *American Journal of Surgery* will contain a series of articles by surgeons in New York. The issue will be a useful one.

A letter from the solicitors to the executors of the late Lord Lister states that under the terms of his will he requests that his nephews, Rickman John Godlee and Arthur Hugh Lister, shall arrange his scientific manuscripts and sketches, destroying or otherwise disposing of such as are of no permanent interest, and he bequeaths his said manuscripts and sketches when so arranged to the Royal College of Surgeons of England.

OBITUARY

HERBERT L. S. CHAPLIN, M.D.

Dr. Chaplin died in St. John's, Newfoundland, his native town, where he was engaged in practice. He was a graduate of McGill, and in his 31st year.

W. D. McLAREN, M.D.

Dr. McLaren died at Barrie, where he lived. He sustained injuries as the result of a fall while at the gathering of the Mississagua Horse, of which regiment he was major.

A. A. McCRIMMON, M.D.

Dr. McCrimmon died at Rainy River, where he practised. He was at one time Mayor of the place, and had the waterworks system installed. He graduated from McGill in 1891.

MARY L. R. MORRIS, M.D.

Dr. Mary Marris died at Truro, where she lived and practised. She was a graduate of Dalhousie University.

L. POTTER, M.D.

Dr. Potter died at Port Hope. He was a native of Darlington and a graduate of Queen's University. He was in his 69th year.

ROBERT MILNER MORRIS, M.D.

Dr. Morris, of Winnipeg, died recently. He had practised in that city for some years.

ALFRED PAIN, M.B.

Dr. Pain graduated from the University a little less than two years ago. He was in Britain for some time doing post-graduate work, and was on his way back to Hamilton, his home, when he met death as a passenger on the Titanic. Dr. Pain was highly esteemed by those who knew him, and his sad and untimely death was keenly felt by his many friends. "He lies where pearls lie deep."

R. J. BUTTERFIELD, M.B., M.R.C.S., ENG.

Dr. Robert J. Butterfield, a young Canadian physician of great promise, died on 20th April in London, England, at the age of 24, as the result of an attack of typhoid fever, from which meningitis developed. Dr. Butterfield was studying and working in the London hospitals, and had already obtained the degrees of M.R.C.S. and L.R.C.P. He had been in England over a year, and intended to return to Canada shortly to become a practising physician. He was a son of Mr. Butterfield, manager of the Bank of Hamilton, at Milton, Ont., but had lived of recent years with Dr. Peter Stewart, of Guelph. He was a graduate of the University of Toronto, and prior to his departure for England, spent some months as a house surgeon at the Toronto General Hospital. He is survived by his father and a sister, Miss Butterfield, of the Sick Children's Hospital.

ROBERT TRACEY, M.D.

Dr. Tracey, one of Belleville's best-known physicians, died 20th April, after an extended illness. Deceased, who was 76 years of age, was born in Wales and graduated in medicine from the Royal Medical College, Kingston. For 40 years he practised in Belleville. Dr. Tracey was for years Medical Health Officer for Belleville, and a member of the Board of Education, having been its chairman. He was Grand Trunk surgeon and surgeon lieutenant-colonel of the 49th Regiment, H.R. He saw service in the Northwest Rebellion in 1885. He was one of the original founders of the Belleville Hospital and was on the Board of that institution for some years. He was a member of Mizpah Lodge, I.O.O.F., of the C.O.F. Oxford Lodge, Sons of England, and of St. John's A.F. and A.M., Kingston, the second oldest lodge in Canada. A widow, but no family survives.

BOOK REVIEWS

IMMUNITY.

Methods of Diagnosis and Therapy and Their Practical Application. By Dr. Julius Citron, Assistant at the University Clinic of Berlin, 11 Medical Division. Translated from the German and Edited by A. L. Garbat, M.D., Assistant Pathologist, German Hospital, New York. 27 Illustrations, 2 Colored Plates, and 8 Charts. Philadelphia: P. Blackiston's Son & Company, 1512 Walnut Street. 1912. Price, \$3.0.

In the preface the author states that his object is to give the medical profession a book of moderate size on the important subject of Immunity. He draws freely on the work of such men as Kolle and Wassermann, and Kraus and Levaditi. The whole question of making diagnosis by the aid of vaccines and sera, and their application in the treatment of disease has become a very large one. It is now demanding its full share of attention. Much attention is paid to the two factors to be found in infection, namely, the organisms on the one hand, and the reaction of the body on the other. In a delightful manner the author conducts the reader through the problems of the agglutinins and precipitins and how they act, on to the various phases of the study of antitoxins, bacteriolysins, and bacteriotropins, and shows how the first neutralizes the poison, how the second destroys the bacteria, and how the third alters these so that they may be the more readily attached by the body cells. There is some useful information on laboratory equipment. Two of the interesting chapters of the book are those on active immunity. These should be carefully read, as they lie at the foundation of treatment by vaccines and sera. The diagnostic methods are gone into with thoroughness. The chapters of the book that most will turn to eagerly are those devoted to therapy. The author speaks favorably about the good results of tuberculin, especially the B.E. or bacilli-emulsion, and the T.R. or new tuberculin. We cannot follow the author through his remarks on the various toxins, antitoxins and vaccines; but recommend this book on one of the newer branches of medicine. It is full of valuable information, and is printed and bound in most attractive form.

SPONDYLOTHERAPY.

Physio-therapy of the Spine, based on a Study of Clinical Physiology. By Albert Abrams, A.M., M.D., F.R.M.S., Consulting Physician to the Mount Zion and French Hospitals, San Francisco; Formerly Professor of Physiology and Director of the Medical Clinic, Cooper Medical College, Leland Stanford Junoir University, San Francisco. Third Edition. Enlarged. Philopole's Press, Suite No. 406, Lincoln Building, San Francisco, California. 1912.

There is no gainsaying the statement that the medical profession

has often been blind on certain topics. It required a John Hunter to create pathology, a Pasteur to give us bacteriology, and its bearing on medicine, and patients were dying by tens of thousand till Lister came forth with antiseptic surgery. All these men were opposed by the leaders of their day. Many valuable advances in medicine and surgery have come from those who were not regularly of the healing craft. In the matter of the treatment of the spine and, through it, other diseases, a good deal had been done by those who would be called "quacks." But the work of the "rubbers" and "manipulators" caused some of the medical profession to look into the claims of these people. For long the medical profession paid no attention to suggestion; but Messmer, Braid, and others, made it clear that there was much in suggestion. Dr. Albert Abrams, in this volume, goes to show what there really is in "spodylotherapy"; and he has succeeded in showing that there is a good deal in it. In the first place, there are many troubles of the spinal region that give their possessors much annoyance. In the next place, that through the spinal-cord reflexes distant organs are influenced very markedly. And then, finally, he shows that suggestion plays here an important role. Spondylotherapy may, therefore, cure or relieve a very troublesome local condition; or it may stimulate the cord, and in this way act on some organ; and then, again, it may act on the mind and greatly improve the condition of those who may be afflicted with the "blues." Just because this book is unique in many ways, we advise all who can to read it. Criticize it if you will; but read it anyway. Hamlet said: "There are more things in heaven and earth, Horatio, than are dreamt of in your philosophy."

DEAFNESS.

The Nature and Causes of Catarrhal, "Throat," or Hereditary Deafness, and Explanation of Paracismus Willisii, The Mechanism of Aural Accommodation, The Regulation of Labyrinthine Fluid Pressure, The Tightening of Relaxed Tympanic Membranes and Joints, The Relief of Tinnitus Aurium. By Charles J. Heath, F.R.C.C., Late Surgeon Hospital for Diseases of the Throat, Golden Square, London.

The condition where a patient can hear better in a noisy place than he can in a quiet one, is an interesting condition. Some of these patients can hear better in the midst of noises than those whose hearing otherwise is good. This form of deafness, the author contends, is due to a relaxed condition of the chain of bones in the middle ear and the membranes. Taking this view of these cases, he holds that the treatment by inflation with air is quite wrong. This form of deafness has been caused by violent blowing of the nose, where the tympanic cavity is forcibly distended. In other words he lays down the statement that a

very large preponderance of chronic deafness is due to derangement of aural accommodation. This is the cause, he holds, in those with paracutic deafness. This reprint of the author's address on the subject is well worthy of careful study. It will be found most interesting, in so far as it goes to prove that the old treatment of forcing air into the ear through the nostril is wrong.

DICTIONARY OF TREATMENT.

A Dictionary of Treatment, including Medical and Surgical Therapeutics. By Sir William Whitla, M.A., M.D., LL.D., Professor of Materia Medica and Therapeutics in Queen's University, Belfast; Senior Physician to, and Lecturer on, Clinical Medicine, Royal Victoria Hospital. Author of "Pharmacy, Materia Medica, and Therapeutics," Practice and Theory of Medicine, etc., etc., etc. Fifth Edition, 28th Thousand. London: Bailthere, Tindall and Cox, 8 Henrietta Street, Covent Garden; 1912. Price, 16 shillings net.

This is a dictionary of medicine arranged alphabetically. The space allotted to each subject is in due proportion to its importance. This is not always an easy thing to do, but the author has the happy faculty of knowing how much should be said on each disease. The book is what its title states, a work on treatment. It is thoroughly practical, and reveals throughout the hand of the experienced clinician. Some attention is paid to prevention in disease; and useful suggestions laid as to how to prevent as well as cure disease. The first edition appeared in 1891. The author remarks in the preface to the first edition that he commenced to write a therapeutic index for his work on pharmacy, materia medica and therapeutics. What was intended to be about 60 pages grew into a volume of 1,000 pages. The present edition contains 1,204 printed pages. The book contains numerous formulæ for the guidance of those who consult these pages. These formulæ are of a very useful and practical character. They show that the author, on the one hand, is not a polypharmacist, and on the other, that he is most resourceful in the use of drugs for the treatment of disease. It would be very difficult to set forth the merits of this book in the space at our disposal. Suffice it to say, that it is one of the most perfect on the subject that we are acquainted with in any language. It has enjoyed wide sale—and this has been all too limited considering its worth. The publishers have chosen good paper and used clear type. The book contains an almost incredible amount of information.

DENTAL CARIES.

The Prevention of Dental Cavities. By J. Sim Wallace, D.Sc., M.D., L.D.S., Dental Surgeon and Lecturer on Dental Surgery and Pathology, London Hospital, etc. Second Edition. London: Published at the office of the Dental Record, Alston House, Newman Street, W. 1912. Price, 1/6 net.

This small volume of 67 pages should be carefully studied. It is of a most useful character and contains very much valuable information on dental caries. No one doubts the importance of this subject. We commend it most heartily.

INTERNATIONAL CLINICS.

A Quarterly of Illustrated Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, etc., etc. Edited by Henry W. Cottell, A.M., M.D., Vol. 1. Twenty-second series, 1912. Philadelphia and London: J. B. Lippincott Company.

The present volume contains articles on Diagnosis and Treatment, Medicine, Surgery, Diseases of the Ear, Obstetrics, Occupational Diseases, Eugenics, Historical Medical Places in America, and editorial articles. The volume is in every way up to the standard of the other volumes of this series. There are no weak spots.

MISCELLANEOUS MEDICAL NEWS

THE HOT SPRINGS OF BATH.

INTERESTING EFFECTS OF RADIUM.

No less than £6 worth of radium daily passes into the River Avon, remarked Sir William Ramsay on Monday night to a gathering of the medical profession in Bath, to whom he was communicating the results of his investigations of the Bath Waters. The daily yield of the hot springs is half a million gallons, most of which passes into the river after use in the Baths, and that was the value of the radium it contained. The distinguished scientist, who is the greatest English authority on radium, added significantly that they could not get it out of the water; they could only use it. It was to the presence of radium and its active product, radium emanation, that the Bath Waters owed their efficacy, for until the sulphur baths of Harrogate, which owed their potency to the chemical constituents, the Bath Waters had, in the main, merely ordinary constituents, such as were to be found in many drinking waters.

The amount of radium might seem ridiculously small, but it must be remembered, he said, that the effect of radium was due to radiations of exceeding intensity. There was radium in every glass of the Bath Waters drunk in the Pump Room, the historic room in which visitors have daily assembled since the years when all the world went to Bath in order to "drink the waters" in the morning, Sir William himself happened to

drink a glass in the Pump Room, and then went back to his temporary laboratory in which was placed the electroscope, the delicate instrument with which the presence of radium is detected. The moment he entered the room the instrument showed unmistakable signs of the presence of radium, and all that there was that which he had drunk in the glass of water.

More important from the point of view of the spa were his measurements of the radium in the water, and the radium emanations in the water and in the gas, which is given off by the steaming water. As a result of these Sir William was able to state that the Bath waters contained twice as much radium emanation as the Buxton waters, and that the natural gas from the Bath water was four times as strong in radium as the Buxton natural gas.

These investigations are not only interesting in so far as they explain the wonderful curative properties of the waters which led the Romans to found the bathing establishments of *Aquae Sulis*, and which have been utilized to bring alleviation to sufferers from a variety of diseases, although the reason for their healing powers was not known, but they are important in that the application of the waters can now be made on still more effective lines by a more scientific use of both the water and the gas which is an agent when used with the water 20 times more potent than the mineral water alone. The discoveries have come at a moment when a big scheme for the development of the Baths of Both is in contemplation, and the lessons of Sir William Ramsay's investigations will be profited by.

ANCIENT SURGICAL OPERATION.

There is no doubt that some rough form of surgery must have existed from very ancient times, but it is strange to find that so complex and delicate an operation as trepanning is one of the oldest.

So far as actual records go, Hippocrates gives us the earliest account. He wrote treatises on fractures, dislocations and wounds of the head, in procedure to be followed in the case of a fractured skull. His direction was to cut away a piece of bone so that the pressure on the brain might be relieved.

There are also records about this time and later of a file being used for this purpose, which at a time when anaesthetics were undreamed of must have been, to say the least, painful.

According to Dr. T. Rice Holmes, the operation of removing pieces of bone was performed long before historic times. The effects on the skull are easily seen after death, and are visible so long as the bones are preserved.

From inspection of certain skulls of the later stone age in ancient Britain, Dr. Holmes has come to the conclusion that some of these had undergone the operation, which must have been performed with a stone implement.

SCHOOL MEDICAL INSPECTION IN TORONTO.

During March there were 1,832 medical inspection made in the Public Schools, as shown in the monthly report Dr. W. E. Struthers, Chief Medical Inspector. There were 920 special physical examinations, 1,504 readmissions after illness, 1,478 defects found, and 896 complete physical examinations.

The principal defects were: Defective vision, 115 cases; enlarged tonsils, 488 cases; defective nasal breathing, 281 cases; carious teeth, 1,156 cases.

The number of children excluded for contagious diseases was 135.

The total number of inspections of all kinds was 75,734. The total number of instructions given was 20,415, and of treatments, 1,669.

THE MEDICAL PROFESSION AND THE INSURANCE ACT.

At a fully attended meeting of representatives of the Medical Faculties of the English Universities, of the Royal College of Physicians of London, of the Royal College of Surgeons of England, and of the Society of Apothecaries of London, held at the Royal College of Physicians on Thursday, March 21st, the following resolutions was passed unanimously:

“That this Conference, in which are represented the Medical Faculties of the Universities of England and Wales, the Royal College of Physicians of London, the Royal College of Surgeons of England, and the Society of Apothecaries, recognizes that there is a remarkable unanimity of opinion within the medical profession as to the attitude which its members should adopt towards the working of the National Insurance Act of 1911.

“This Conference desires to place on record its general approval of the principles which inspire that attitude, and while conscious that there is some difference of opinion with regard to details, expresses its willingness to support the demand that these principles should be recognized by those who are responsible for the administration of the Act before medical practitioners consent to work under it.”

RE "SIMCOE HALL, LIMITED," SANITARIUM.

Dr. W. C. Barber, who has been in the Ontario Government service for the past 23 years, leaves early in May to open a sanitarium or hospital at Barrie for the care and treatment of Nervous and General Diseases.

The buildings have just been completed and handsomely furnished and decorated.

The hospital is called Simcoe Hall, and is most beautifully situated on the height of land 600 yards from the lake shore, 175 feet above Lake Simcoe, and 800 feet above Lake Ontario. The outlook from the hall is simply magnificent, one of the grandest in Ontario.

This institution has been built on the latest plans for hospitals of this character, and every modern convenience installed. The hydrotherapeutic and electric departments are most complete and cannot be surpassed. Every appliance of scientific value is being installed.

There is certainly a large field for an institution of this character, as heretofore our wealthy patients were sent to institutions across the line or in Germany.

Dr. Barber is to be congratulated upon having one of the most magnificently situated and ideal places on this continent, and we bespeak the patronage of the medical profession for Simcoe Hall, Barrie. The consulting staff includes the names of the leading men in the profession in Ontario and the States.

The nursing staff will be composed of graduated nurses. The water supply from flowing artesian wells. A mineral spring is situated not far away, the water from which, on analysis, has proved to be a valuable aperient water. Barrie is situated 62 miles north of Toronto.

A cordial invitation is extended to the medical profession to visit Simcoe Hall, Barrie.

ANOTHER MUNIFICENT GIFT FOR LONDON UNIVERSITY.

"A friend of London University," who desires to remain unknown, has intimated to Sir Francis Trippel that he is willing to give £70,000 towards the purchase of the site on the Duke of Bedford's estate north of the British Museum. A communication to this effect has been addressed to Viscount Haldane, Chairman of the Royal Commission on University Education in London, and to Sir William Collins, Vice-Chancellor of the University.

The total amount subscribed in eight days for a new site and Senate House of the University is now £305,000.

MEDICAL PREPARATIONS, ETC.

A PLEASANT, EFFICIENT LAXATIVE.

The desirable qualities of a first-class laxative are efficiency and freedom from unpleasant taste. The lack of either to just that extent disqualifies the product for use in the treatment of chronic constipation. That it is difficult to find a palatable and efficient laxative in the same medicament is a pretty generally accepted fact. It is possible to do so, however, and Cascara Evacuant may be cited as proof of that possibility. This preparation is pleasant in taste, and in doses of 15 to 30 minims in water it performs its duty quickly and well, without incidental nausea or distress. That is why children rarely object to taking it, and adults prefer it to other preparations.

The product is manufactured by Parke, Davis & Co. and is procurable from any well-stocked retail pharmacy. To avoid confusion with the so-called aromatic cascara, however, it is well to specify clearly "Cascara Evacuant, P. D. & Co."

The Earl of Erroll, K.T., C.B., presiding recently at the annual meeting of the shareholders of Bovril, Limited, alluded to an article written by a high medical authority in connection with the tests made at Trinity College, Dublin, to ascertain the value of Bovril. The following is an extract from the article:

"As for digestion and absorption of the food constituents of 'Bovril,' they have long been known to be of the first order. The action of 'Bovril' upon nutrition is that it acts practically as a link between the body and the food. It is on such grounds that we are entitled to say that 'Bovril' is more than a food, for it is a feeder. The upshot one may suppose, must be that 'Bovril,' so to say, increases the temperature of the body. Everything must be a little quicker, brisker, easier running than before. Digestion is hastened, and since it is also more complete, the business of getting rid of what is not used is reduced to a minimum. That means a gain for the temperature of the body. There are constituents of 'Bovril' which greatly stimulate, not so much the flow, but the quality that flows, of the gastric juice."

Sir James Crichton-Browne, speaking at the same meeting, said:

"It is not upon medical authority in the ordinary sense—that is to say, on the opinion of medical men who have tried it, valuable although these opinion are—that Bovril now rests its claims to consideration, but on the far firmer basis of exact scientific experiment. Doctors differ, but the scales and the test tube know nothing of diagnostic difficulties. The careful observations of Professor W. H. Thompson, of Trinity College, Dublin, assisted by Mr. Caldwell, M.A., an expert chemical physiologist, and by Mr. Wallace, B.A., have established the unique reputation of Bovril as a food in itself and as a powerful aider and abettor of the appropriation by the system of other kinds of foods."