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EDITORIAL

CHRISTIAN SCIENCE AGAIN.

Quite recently the people of Toronto were treated to a good deal of rubbish from Mr. Clarence C. Eaton, C.S.B., who is a member of the Board of Lectureship of the Mother Church, First Church of Christ, Scientist, Boston.

Mr. Eaton told the people that the remarkable improvements wrought in the temperament, character, habits and deeds of men by Christian Science are the result of casting out of evils and devils. This is attracting more attention to-day than that of mere healing. He then made this statement:

“Thank God the mission of Mrs. Eddy has not been in vain. There is a vast multitude of people in this generation who momentarily give thanks that it was through her discernment, courage, and unswerving fidelity that their tears have been dried and their pain banished.” On the subject of sickness he further said: “It was possible for a man to be trained to the belief that two and two made five, and go on indefinitely in that belief. It was similar in the case of sickness and disease. Through long custom they had been reckoned as the necessary adjuncts of our material bodies, and Christian Science rectified this belief, asserting that God’s creation man was like the Maker, unchangeable. It asserted that there was neither legerdemain or hypnotism in the belief, simply that man being made in the image of God there was nothing on earth that could mar it.”

Of course, the whole scientific world knows that Mrs. Eddy was wrong. It would not be going too far to say that she was laboring under a delusion. It is not necessary to say that she was dishonest. Give her credit for being sincere. It remains, however, that her system of healing and philosophy is a wretched jumble of East Indian theosophy, and is paraphrased from what Quimby taught regarding that cult known

as theosophists. It is contrary to all experience and reason. So long as they busy themselves with religion, we can well afford to leave them to the church, but when they undertake to tamper with the lives of people, then it is time for the medical profession to speak out. This matter will be up in a very pronounced form ere long when the Commission on Medical Practice begins to hold its sessions.

In the London Bailey Court a short time ago, a father was tried before Judge Rowlatt on the charge of manslaughter for criminal negligence, because he did not call in a doctor to his daughter, who died of diphtheria. The judge said to the jury that the evidence had failed to show that the father was aware that there was real danger to the life of his child, and for this reason they could not find him guilty. But the judge went on to say:

“But we are not trying him for being a Scientist. We are trying him for neglect and will not admit the excuse that he is a Scientist. If this man were convicted for not calling a doctor, if he had reason to believe that the child had diphtheria or anything like diphtheria, we should punish him severely, Christian Science or not. We want to be quite certain of our ground before coming to a conclusion of this sort, however, much as we may think that he was a stupid donkey for not having more sense about the matter. But it is not for stupidity that we convict him in the criminal court.”

Dismissing Jewell, the judge urged him to be careful in the future. “There are a great many things that you do not understand that the doctors do.”

The judge's advice to Jewell is applicable to all Scientists. They are living in a fool's castle, so far as medicine is concerned.

HOSPITALS AND PATIENTS.

The public and the medical profession of Toronto were quite surprised a short time ago by seeing in the daily papers that the Police Commissioners had issued an order that all persons suffering from an injury or in an emergent condition, and removed in the police ambulance, must be transported to the General Hospital. This at once called for a protest from the medical profession and the other hospitals.

A meeting was called and a committee consisting of Dr. E. E. King, from St. Michael's Hospital; Dr. B. L. Riordon, from Grace Hospital; Dr. Jorn Ferguson, from the Western Hospital, and Dr. J. E. Elliott, from the members of the profession not attached to hospitals. This committee was instructed to wait upon Mayor Hocken, and urge that the old rule should be restored, namely, that the patient, his friends,

his doctor, or his employer, could designate to which hospital he wished to be taken by the police ambulance. In the event of the patient making no selection, and no one being with him to do this for him, the driver would take him to the nearest hospital. This rule had given perfect satisfaction.

When the committee met Mayor Hocken and discussed the matter with him several interesting pieces of information came out. In the first place, there were present at the meeting of the Police Commissioners only the Mayor, and Col. Denison, Judge Winchester being out of the city. The other piece of information was that it was the Mayor who raised the question at the meeting of the Commissioners. The committee were unable to secure a perusal of the order passed by the Commissioners, or to ascertain whether or not some one from the General Hospital had inspired the Mayor to act as he had.

He said to the committee that he thought Col. Grasset, the Chief of Police, had taken too extreme a view of the order. He said he did not think it was intended to interfere with those who could pay for their ward in a hospital. The Mayor, however, gave the committee to understand that the order would stand in so far as city order emergency cases are concerned. This concession is some gain, but it is far from a satisfactory solution of the difficulty.

There are several things that should be borne in mind:

1. When there was only one hospital, the General, all such cases were taken to it. But as each new hospital was established it obtained the privilege of receiving city order patients and caring for them. This has never been questioned.

2. The patient, or some one for the patient, has always had the right to say to which hospital the patient should be taken. This has been regarded as a right of the citizen that could not and should not be interfered with.

3. The police ambulance is a public conveyance for the use of the public. It is supplied by the citizen body and maintained out of the general city revenue. It is placed under the control of the Police Commissioners, but might just as well be under the control of the Property Committee, or the Assessment Commissioner.

Now the deduction must be drawn that if the Police Commissioners have the power to compel an accident case to be removed to any given institution, against the wish of the injured person or his friends, then they have power to determine to what institution all city order patients must go. We deny this power. The Police Commissioners have power to regulate traffic on the street, they have power to make a charge for the public ambulance, they have control over the ambulance as to

the condition in which it is kept, they have power over the occupant of the ambulance if he is charged with a crime, but they have no power over the citizen who has violated no law and who is not charged with any offense. Such a citizen is a free man and can exercise the right of choice, though he be in the public conveyance.

No rule but this will meet the wish of the public on the one hand, and the medical profession on the other. The moment any one of the General Hospitals has its wards filled by any rule of compulsion, that moment will public feeling rise up against it, and nothing can stand against unanimous public sentiment.

THE BRITISH INSURANCE ACT.

At the present moment there are at least 15,000,000 insured against sickness in the United Kingdom. Prior to the Act about one-third of these had made some provision for the rainy day, but for the two-thirds there was nothing but the poor house, if they had no friends who could keep them. A person with an income of 25 shillings a week cannot do much in the way of providing for sickness or age.

Nearly all the workers in Britain at some time have belonged to some friendly society, and not one-third of them are members to-day. The reasons are that the lack of employment or sickness caused them to fall out of the ranks of these benevolent societies for lack of funds to meet their dues. In this way millions of the working classes are forced out of these societies, and have nothing left when sickness overtakes them.

This year the Act has raised £26,000,000; next year the sum will be £29,000,000, and when the Act is in full operation, the amount will be £31,000,000. This money is for the relief of sickness and distress and unemployment, and to provide attendance to the worker and the mother at the time of confinement. The workmen contribute £11,000,000, and the state and the employer the balance. The working classes will be aided to the extent of £20,000,000 when the Act is in full operation.

It is reported that there are now about 18,000 or 20,000 doctors who have signified their willingness to serve under the terms laid down in the Act. The doctors in general practice are the ones who are doing the attendance—just such as the people have always had. There are now over 9,000 chemists who are supplying free drugs under the provisions of the Act. Every week 500,000 persons are attended free by these 18,000 doctors, or 28 persons to each doctor.

The workers have the free choice of the doctor they wish out of the list under Government employment. The Government has the power

to dismiss a doctor who neglects his duty, and on the other hand, no doctor is compelled to go on the panels. Many workers and poor people who could not afford a doctor before the passing of the Act can do so now, and much to their benefit. Many lives are being saved by this means. In a number of towns the doctors' books have been examined and it is found that they are making more money now than they formerly did. By the terms of the Act these 15,000,000 workers can command free of charge pure drugs as may be ordered.

This year there will be paid to the doctors £4,375,000, and the chemists, £937,000, and there is left the sum of £312,000 to be divided between the doctors and the chemists. The men workers in sickness receive 10 shillings a week, and the women workers 7 shillings and six pence. Out of those who are now actually in receipt of these benefits only 90,000 had provision of any sort made before the passing of the Act.

Before the Act came in force there were 5,000 sanatorium beds for the care of consumptives, and of these only 2,000 were for workers. The Act provides for £1,000,000 for the erection of sanatoria. There will soon be a sanatorium in every populous centre. Already 24,000 consumptives have been treated. When a man is sent to the sanatorium for treatment his family receives 10 shillings a week. Thus the sick man is cared for and the family is materially assisted during his illness. In such cases as these the Act is preventing over 50 per cent. of those people ending up in the workhouse. In these many ways the National Insurance Act of Britain is helping the worker, and it is now claimed that the medical profession is faring better than was at first anticipated. A sum of £78,000 goes to research work.

PURE MILK.

One of the topics that commanded, and rightly so, a considerable share of attention at the International Medical Congress was that of pure milk. It was pointed out that disease was often spread in this way.

Dr. Harold Stiles, who has had a very large experience in the Royal Edinburgh Hospital for Sick Children, urged the necessity for a more thorough control of the milk supply. He thought that Koch and his disciples were guilty of a serious error in disregarding milk as a source of tubercular infection in children. Over and over again Dr. Stiles asserted that he had come across cases in which the causal relation between milk and disease was absolutely established. If that is the case—and we believe that many scientific men will agree with Dr. Stiles—

we must then have a larger and more efficient control of the milk supply.

If we assume that 10 per cent. of the milk supplied to our large cities is tuberculous—and that, unfortunately, is not a very unlikely hypothesis—then sterilization of the milk is the only trustworthy measure, if the life of our children is to be safeguarded. It is children who also are most likely to suffer from such an offense as that already mentioned. The dairyman proposes to give to his customers pure milk. From a strictly scientific point of view it is very doubtful if absolute purity could ever be attained, unless some general measure were adopted for stamping out bovine tuberculosis among dairy cows. But to add a proportion of water is to impose another risk on the consumer, except on the improbable supposition that pure water alone had been employed. Beyond the robbery involved in the transaction, which is, of course, obvious, we have the peril of the adulteration.

Science does what it can in telling us what to take and what to avoid, how best to guard life against its accidents, and to prolong it to something more than the recognized three-score years and ten. And, on the whole, science wages a victorious war, for man is longer-lived than he used to be. Nevertheless it is in the power of an individual to wreck the whole process, it may be by thoughtlessness, or it may be by malice prepense, and the only way in which society can revenge itself on the individual is to punish him after the offense has been committed and all the harm has been done.

The time is coming when all dairies will be inspected and tuberculous animals removed from the herd. We have now outlived the idea that bovine tuberculosis is not the same. Clinical observation and experimental proof are now forthcoming in abundance to show that the bovine and the human types are the same, with minor differences, and modify from the one into the other constantly. The control of tuberculosis, therefore, to no small extent comes back to the milk supply.

THE CARE OF CHILDREN.

In the latter part of August the Congress on School Hygiene met in Buffalo, and devoted several days to the discussion of topics of vital importance to the welfare of the school; and, indeed, as a consequence, to the child out of school and in after life.

The care of the teeth came in for consideration. This cannot be too often or too forcibly emphasized. The teeth of the child need care just as much as do those of the adult. But the ideal condition will not be attained until the parents can be forced to attend to this aspect of their children's health.

Sex hygiene is an important subject and was discussed carefully. The opinion was generally entertained that books on this subject should not be placed in the hands of children; but that, on the other hand, they should receive their information orally. This is the position we have urged for years, and are glad to find the Congress take the same view. This was the opinion of Mrs. Young, of Chicago; Dr. Keyes, of New York; Dr. Pratt, and others.

Dr. Walter W. Roach, from Philadelphia, stated that he had found that children who studied in cold rooms, but had warm clothing and were given opportunities for exercise, did better and gained twice as much in weight as did those in warm rooms.

Dr. Barker, in discussing the subject of mental hygiene, protested against any system of education that would train a man to the point of taking his Ph.D. degree, and not impart to him the necessity for fresh air, and to breathe through his nostrils, and not through his mouth, and such like principles.

Dr. V. C. Vaughan, of Ann Arbor, opposed strongly some phases in modern education. He said the schools were arranged for the feeble-minded, rather than the mentally capable. He did not believe in holding back. They should be allowed to go on as their powers permitted. The custom in universities of allowing students to select so many options was not good, as they were not compelled to take fixed courses, and this often made both poor students and mental weaklings.

Miss McKinney, who has been studying for two years the condition of children in Michigan, said that she had only covered a small portion of the ground, but from what she had done she came to the conclusion that there were about 10,000 feeble-minded children in the State.

Miss Boehne, supervisor of special classes in Rochester, paid a tribute to the Rochester Board of Education. To their open-mindedness, she said, was due the great advance made by the child study laboratory in that city.

Besides the ordinary special classes in Rochester, Miss Boehne has established five classes for older defective boys and three classes for older defective girls. In these advanced classes the boys engage in various kinds of shop work and the girls in the different branches of domestic science.

Of 24 medical schools that responded to a questionnaire sent out by Dr. Gesell, of Yale University, 20 acknowledged that they gave no or only incidental attention to pediatry.

Harvard University and Johns Hopkins, he said, are now giving clinical studies in mental deficiency in their regular medical courses.

The university as a public service corporation, Dr. Gesell continued,

should assist in the establishment of special classes for feeble-minded children.

Miss Farrell, superintendent of the undergraded classes in New York, hoped the time would soon come when more attention would be paid to the state of the child's mind than to the more formal subjects of study.

Much attention was given to the care of the eyesight. One of the most important addresses of the Congress was given by Sir James Kerr, of London.

Dr. Kerr said that ten minutes in a dark room increased by 25 times the sensitiveness of the eye to light, and that with half an hour of light exclusion the eye became 30 times as sensitive when exposed to ordinary daylight. This variation might be, however, ten times as much in one person as in another.

That one-third of all school children have defective vision was one of the statements made by Dr. Kerr. These children, he said, required better illumination than for normal eyes. In England it had been found that 10 per cent. of the school children suffered from serious eye defect.

To disturbances of vision Dr. Kerr attributed some forms of anaemia and fatigue, and the frequency of migraine and neurasthenia. There should be an intelligent use of wall and roof reflection. Much light, the speaker said, is lost because of darkly painted surfaces. Shadows cast can be modified by suitable reflectors. Top lighting, Dr. Kerr maintained, has immense advantages. The spinning mills in Lancashire are all lighted, he said, from overhead by what is sometimes called the jigsaw method.

Miss Carruthers, a Toronto teacher, aroused much discussion by pointing out the necessity for blinds for north windows.

The consensus of opinion of the experts present was that where local conditions as to sunlight and snow warranted it, blinds for north windows were absolutely necessary. These blinds, they claimed, should be translucent and sectional, and fitted upon adjustable rollers.

In discussing this question, Dr. Myles Standish, professor of the department of ophthalmology at Harvard Medical School, took a strong stand. Not alone, he said, were blinds for north windows necessary in the daytime; they were necessary also if the schoolrooms were to be used at night. With dark window spaces a great proportion of the artificial illumination was lost, and light-colored blinds would provide a reflecting surface without which the room could not be properly lighted.

One of the most interesting papers was that of Dr. Ira S. Wile, member of the Board of Education, New York City, who dealt with the relation of school hygiene to industrial hygiene. From statistics gather-

ed it was found that industries into which child workers drift are frequently those in which there is an unusually high mortality, occupations where diseases of exposure, diseases of environment, Bright's disease and accidents are frequent.

Referring to accidents, the speaker claimed that these were frequently due to youth. "There are three hundred per cent. more accidents to boys under 16 than to adults. All workmen's compensation Acts should provide for the installation of protective improvements in machinery, and for the removal of gases and dust. Pulmonary diseases are largely due to dust, extremes of temperature and humidity."

Laundries, particularly, were for this reason improper industries for children to enter. Boot-blacks, the speaker continued, worked under conditions that predisposed to pulmonary diseases. He emphasized the great importance of relating school instruction in hygiene to the practical hygiene of industrial life. Children must be trained to good postures and habits to offset the effect later, of improper positions in standing and sitting while at work. They must be taught that frequent bathing and protection of the nose are necessary safeguards against the absorption by the skin and the inhalation through mouth and nostrils of industrial irritants and poisons.

In conclusion, Dr. Wile stated that the adjustment of the child to his labor was of immense hygiene importance. Children of 14, 15 and 16, were unequal to the demands of industrial labor. There should be examinations of the pupils in the graduating classes to advise them so that they would not rush into industries for which they were physically unfitted.

Sir Robert Anderson, late head of the Criminal Investigation Department, held that children with criminal tendencies often had well-formed heads, and maybe quite charming in many ways. This is true also of the adult. He thought that alcohol was the cause of 5 per cent. of the crime met with, and often of crime against the person. A good criminal is always a clever man. Convicts as a class were bright and had much talent. He did not agree with Lombroso that there is a definite criminal type of head.

An ovation was tendered Dr. Eliot, President Emeritus of Harvard, for the splendid work he had done as president of the Congress. It meets next time in Brussels in 1915.

ANNUAL ANNOUNCEMENT, ONTARIO MEDICAL COUNCIL.

The annual announcement is just to hand, and it does not, in many respects, make very agreeable reading. The Council meeting passed the following by-laws:

1. A by-law rescinding all existing by-laws.
2. A by-law that all by-laws be collected by the Registrar.
3. A by-law that the Council hold one session in Toronto, and regulating calling of special meetings. This by-law covers the collected rules.
4. A by-law for the payment of members of Council and committees.
5. A by-law for the election of territorial representatives.
6. A by-law for the election of homœopathic members.
7. A by-law for the holding of examinations.
8. A by-law relieving from the annual fee those who do not practise in Ontario.
9. A by-law for the collecting of the annual fee of \$2 from those who practise in Ontario.
10. A by-law to appoint a committee on discipline.
11. A by-law to appoint the executive committee.
12. A by-law that the Council hold a session in Toronto in 1914.
13. A by-law for appointment of legislative committee.
14. A by-law declaring certain by-laws standing by-laws.

The wider authority of by-laws 7, 8, 9, 10, 11, 12, 13 and 14, working by-laws, are adopted for the examinations, the committees and the fees.

The Council removed the names of Drs. A. W. Stinson and B. E. Hawke from the register.

The Council elected Dr. Klotz, President; Dr. MacArthur was elected Vice-President; Dr. Bray was elected Registrar; Dr. Aikins, Treasurer; H. S. Osler, K.C., was elected Solicitor, and Mr. Angus was elected stenographer.

The committees were then appointed. These are: Registration, Rules, Finance, Printing, Education, Property, Complaints.

Communications and petitions were taken up. Reports of committees on rules and by-laws and notices of motion took up the second day.

The third day was occupied with notices of motion, consideration of reports, the executive committee, fall examinations, spring examinations, reports, by-laws—and the cases of Drs. Stinson and Hawke.

The fourth was devoted to reports from committees, the finances of the Council.

Now, the most of this is routine, and is the same from year to year, such as the wording of the by-laws, and is largely the work of the solicitor as to form.

It is interesting to note that the Council bonds its officers in a

United States company, when we have so many good Canadian and British companies.

It is also very worthy of note that the expenditures exceeded the revenue from all sources, including interest of \$1,000, by the tidy sum of \$810.17. This puts one in mind of Macawber and the Poor House.

The salaries were fixed as follows: The Registrar, \$2,750; the Treasurer, \$700; the Prosecutor, \$1,200; the Auditor, \$75; the sessional indemnity for members, \$100 and \$10 for each half day in travelling, and five cents per mile each way. Miss Rose was voted \$100 additional to salary of \$15 per week for extra services. Members of committees are paid \$15 per day and \$7.50 for half days. The certificate to a student going up for Dominion examination, \$25, and for a practitioner, \$5.

Nowhere does the Council in the announcement give a statement of assets and liabilities. There is the financial statement for the year only, showing a loss of \$810.17.

The Council meeting for 1912 cost \$3,549.70. It will not be less for 1913. This is a very heavy sum to have to pay for the amount of business done, as just synopsised.

The salaries have been increased, and the probabilities are a larger deficit next year. This should cease somewhere. It is high time the Council got within its income, which is over \$31,000 a year.

We would urge that the Council live within its income. For years we have been protesting against these deficits. Further, we would suggest that a statement of assets be given next year. This is the plain duty of the Council as trustees for the profession.

SODIUM SALICYLATE.

As a result of a co-operative investigation as to the relative therapeutic value of sodium salicylate prepared from natural sources, and of sodium salicylate prepared by synthetic method, A. W. Hewlett, Ann Arbor, Mich. (*Journal A. M. A.*, August 2), finds no essential differences between the two. Eighty-two physicians expressed a willingness to cooperate in the investigation, but the conclusions are based on the reports from twenty-seven clinical investigators, embodying approximately 230 separate observations on the effect of the marked salicylate powders which were sent them, without stating which were natural and which were synthetic. Some observations had to be discarded because the investigators had not noted the numbers on the boxes from which the powders were taken. The agreement in the therapeutic effects was demonstrated by an analysis of the reports submitted as well as by the expressed opinions of the users, the slight variations in one direction or the other being only such as might be expected, and might be said to be surprisingly small. The results of the fifteen most complete reports are shown in tabulated form.

ORIGINAL CONTRIBUTIONS

PRESIDENT'S ADDRESS.*

BY H. A. M'CALLUM, M.D., M.R.C.P. (LOND.)

I F I had considered the high honor and responsibility awarded me by the Canadian Medical Association at our meeting in Edmonton last year, I should perhaps have declined the flattering tribute, as much from consciousness of my own inability to fulfill the distinguished position in a manner satisfactory to myself, as from a sense of what is eminently due to the scientific and high professional character of this national association. However, inadequate as the discharge of my obligations of office may prove to be, I am emboldened by the support of my local colleagues, and the encouragement of numerous members throughout the Dominion, to rely upon your indulgence for whatever is stale and unimportant, or for whatever may be defective in the manner of my address to-night. It has been the practice of my predecessors in office to sweep the whole horizon of Canadian medicine for objects worthy of the attention of this association. I plead for the liberty to say painful truth when dealing with matters that affect the honor of our profession, and it is not from love of wounding or pleasure of stinging, that I am dealing boldly with professional defects and offenses. I would rightly merit the contempt of you all, did I pass these things by on the other side.

The first thing to challenge our attention, is the relative indifference shown to this association and what it represents by too many of the eight thousand doctors in the Dominion. The association has had no mean part in removing narrow, provincial medical prejudices and in bringing about legislation that resulted in the accomplishment of Dominion registration. The splendid service of the British Medical Association to the profession of the British Isles, in dealing with the terms of Lloyd George's Insurance Bill, points out what an association can do for each individual members of the profession. The future outlook of Canadian medicine demands a strong association to confront legislation that would make us a despised arm of the Civil Service. It may be there are greater evils in store for us than being brought under the pay and direction of the Canadian Civil Service. If thereby the public were protected against its own "giant credulity" and our profession purged of its abuses, one could gladly welcome the change. So long as a nation can elect a demagogue to its legislative halls, there is sure to arise the attempt. It may be in the very near future. Let us be armed to secure

*Given at the Annual Meeting of the Canadian Medical Association, London, June, 1913.

the most favorable terms. If four-fifths of the profession belonged to the association, instead of one-fifth, as at present, no attempt could get under way to bring us into the service without our consent.

Previous to the inauguration of the association journal, there were practically no permanent members of the association, except its officers. The membership lasted only during the meeting, and its character changed from year to year. Since the appearance of the journal, the permanent membership has reached nearly fifteen hundred, and the attendance at the annual meetings has more than doubled. Two factors have created gigantic associations in the United States and Great Britain, viz., the unification of all city or county societies with the national association, and the establishment of a weekly journal. The national association should be the apex of the pyramid, whose base is the provincial societies built upon the city and county societies. At the suggestion of President Mackid, the association last year directed the secretary to induce each provincial society to secure affiliation with itself of all the city, town, and county societies.

The great bond between the national association and the individual in the profession is not the annual meeting, but the weekly journal. It is by way of a weekly journal that we can succeed in forcing this association into greatness. It will require funds to put the association journal out as a weekly, but the difficulty of obtaining these funds is not insurmountable. One way is to canvass the profession for a membership on the basis of a weekly journal. A membership of one-half of the profession of this country, would assure the continued existence of a weekly issue. Another way is to secure an endowment, the interest on which, when no longer needed for the maintenance of the weekly journal, could be used for lectureships and research work under the association's guidance.

The association is greatly in need of funds for other reasons, one of which is to rescue our profession from being exploited by the commercial enterprise of certain drug houses. Abraham Flexner (*Medical Education in Europe*, page 90), speaking of this evil under the head of medical education in Germany, pertinently remarks: "The critical pharmacologist has discredited the old wives' tales that kept up the traditional pharmacopeia. Meanwhile the manufacturer is spinning a new superstition; the chemical industry of Germany is aggressively and intelligently directed. Only a critical pharmacological sense can enable the practising physician to know when to doubt and how far to believe the sanguine and assertive claims made upon him by the manufacturing chemist." The American Medical Association, through a committee on pharmacy, has undertaken to investigate some vaunted claims of certain

drug houses with beneficial results to the profession in general. May I ask, are all the medical publishing houses with their endless padded encyclopedias on every conceivable branch of medical science, not likewise guilty of exploiting our profession? Nothing can be done against these exploitations, unless we have paid, skilled and scientific censors. For this purpose, funds obtained through increased membership are urgently needed. Above all, we need the influence of all "the respectable and redeemable members of the medical profession in the remote districts as well as in the great centres of our Commonwealth," that they may have a hand in shaping all legislation affecting the future of our profession, and the public health of our country.

The committee of this association has been promised by the Right Hon. R. L. Borden that there will be created in the near future a portfolio of public health. Inasmuch as these changes take a long time in coming, it behooves us to keep urging the authorities. We cannot get a pure food law or federal control of vaccines, serums and drugs, such as has been in operation in the United States during the past ten years, without such Cabinet appointment. There they have a fine of five hundred dollars or one year's imprisonment for conviction of adulteration.

Like several of my predecessors in office, I desire to refer to some phases of medical education. The Carnegie Foundation for the advancement of teaching medical education has done great service for medicine on this continent. Out of its criticisms has arisen, almost everywhere, improvement. Not the least valuable part of its contribution is this, that it gave support to that faction of every medical faculty desirous of being abreast of modern education. The Carnegie Foundation authorities have, however, over-emphasized the laboratory side of medical instruction. The German method of medical education is to tie the medical student to a microscope, as opposed to the English method of cultivating knowledge through the unaided eye. In Germany, the aim is to make scientists first and then doctors. Whereas the "primary purpose for which students learn sciences, is to become physicians, not scientists." The literature of the several subjects that form the basis of medicine has become so extensive, that no man can keep abreast of it. Physiology, which is easily the most essential of all primary studies, has become so elaborate that it has suffered subdivision into three or more departments or professional chairs. There exist similar subdivisions in bacteriology, pathology, and anatomy. As each teacher declares himself incompetent to instruct outside his subdivision, how idle to attempt to make anatomists, physiologists, bacteriologists and pathologists, etc., of medical students. The time is not so very remote when a medical student could master all the primary branches of medicine. To-day it is not possible

for him to master a single branch of the sciences that are connected with medicine, during his college course. The instruction given to medical students does not enable one student in a hundred, no matter how high the standing of the school may be, to say whether a throat culture is or is not diphtheria. For years American medical teaching has been dominated by the German plan of instruction. In certain quarters there is setting in a reaction. It is claimed that we have become guilty of a fetish-worship of laboratories in medical instruction and medical practice.

The great physician and surgeon must depend for his diagnosis upon the physical examination and the evidence he extracts, sifts, and weighs in the patient's history. Laboratory methods are of only occasional use, viz., to support or not support clinical findings. Within the last few years, physiological and pathological chemistry have assumed increasing importance in medical instruction, and would appear to be rapidly pushing, and possibly rightly so, all the other laboratory subjects into the background. It is hopelessly futile to attempt anything more than the most elementary teaching in the primary subjects of medicine to-day. The tried-out subjects of the ages, anatomy, physiology and chemistry, should have preference as to the length of instruction hours. A student's most precious possessions are his time, his vitality, and a clear mind at the age when the mind is most supple, its curiosity most alert, and its nature most impressionable. It is only by cutting down the time allotted to laboratory subjects that we will be able to find a place to instruct students in all the physical, mental, and nutritional forms of healing. It is high time that there was a readjustment of the programme, and a place, if not a professorship, given to these important subjects. Starling, in his preface to his "Physiology," has rightly said: "Until doctors know more about the physiology of nutrition, quacks will thrive and food faddists abound. Ignorance of physiology tends to make a medical man as credulous as his patients, and as easily beguiled by the specious 'puffing of the advertising druggist.'" Some bold surgery is needed in the medical curriculum. At present it is clogged and strangled with too many subjects, and the malady is yearly increasing. This virtually amounts to a confiscation of the most plastic, receptive, and promising years of the student's life, by making him study subjects almost ulterior to the dominant purpose of his life. It is an academic crime to add more burden to the already overworked medical students, some of whom leave the college doors, now, with wrecked health. As the subjects become more intricate and complex, the teaching should become correspondingly more elementary. Medicine has nursed many of the sciences from infants to giants. Now, each one is able to set up a house of its own over which a full-time professor presides. They have emigrated

into the land of pure sciences. In the reconstruction of the timetable, every hour added for a new subject should be cut off from the non-essential.

I am one of these who had the good fortune to serve, while a medical student, an apprenticeship under the guidance of an able practitioner, and I cannot get away from the thought that the time so spent was far more valuable to me than an internship in a hospital. The enormous increase in hospitals throughout the country makes it unnecessary for a recent graduate to be without an internship. However, there ought to be a choice between an internship and a year's apprenticeship with certain designated members of the profession.

A leading insurance company on this continent has found it profitable to pay its examiners a fee for an annual examination of each of its policyholders. The laity insure their barns, buildings, and their valuable stock against accident, and make periodic careful inspection and veterinary testing of these, and yet they will go from year to year without even thinking of subjecting themselves or their families to examination by a reputable physician, that incipency in ailment may be detected and remedied. Why should we resort to medical inspection of schools and neglect the yearly inspection of the adult citizens of the country. Let us try to hasten the day when no man shall think of exercising the right to withhold himself or his family from a yearly physical examination by a reputable physician, to determine any tendency to disease or the presence of disease itself. I am not blind to the fact that this innovation can lead to abuses, for it is impossible to eliminate at once from our profession the alarmist, the surgical tinker, and the obsessed drug giver.

In common with the profession in the republic to the south of us there are problems here affecting the public no less than the profession. These demand solution. Already there has been inaugurated at Washington, during the past month, a movement to establish a non-teaching college analogous to the Royal College of Surgeons of England, with the aim of giving higher degrees in surgery. The bearer of such a degree will have, from competent authorities, the stamp of approval declaring him capable of doing good surgery. American surgery, recognizing that their evils are likewise our evils, has most kindly invited well-known, reputable Canadian surgeons to become founders with themselves of the projected college. Not only will this college demand of its graduates technical knowledge and operative skill, but, above all, honesty and unquestionable moral character. A movement of this kind is intended to abolish needless and abusive surgery together with its invariably associated dichotomous fee. To do this effectually, those holding such de-

gree must have public support and sympathy. Is not the time ripe when we should receive higher degrees in Canada, not from Great Britain and the United States, but from a Canadian institution, founded by the Parliament of this Dominion preferably at Ottawa? The ambition of ninety-five per cent. of the recent graduates in medicine is to become surgeons, and in many cases life's efforts are directed to this end. Matters have come to such a pass that the recent graduate thinks of disease only in surgical terms, the medical side is "a despised weed." We need competent medical men and competent obstetricians, just as badly as we need competent surgeons, that is, we need men in these departments who have the knowledge of specialists. There is too much tendency to accept mediocre attainment in the two former, and demand thorough attainment in the latter. Given a standard high degree in these subjects, along with publicity of their meaning, we would find plenty in the profession who would put forth continued efforts at self education for their attainment. There is a dearth of competent men in many departments of medicine and an overcrowding of the profession with mediocre ability.

My duty to the profession and to the public would not be done did I not refer to the miserable medical fees common to some districts of this country. Once a fee becomes established in a community it is hard to raise it. In certain districts in England, the twopence and threepence fees still persisting are relics of Henry the Eighth's time. A banker, stating tersely the altered value of money, said that in 1860 \$20,000 would yield in interest \$2,500 annually. This sum would go as far as \$6,000 for living expenses to-day; \$120,000 would be the amount of principal required to earn \$6,000 to-day. In other words, \$20,000 in 1860 yielded a living for which \$120,000 would be required to-day, one dollar being equal to six rowadays: "The laborer on the street has been quicker to grasp the altered value of money than your profession," said the banker, "and what is more, he has had, as a rule, the courage to demand his right to substantial increased wage." Through a failure to carry a campaign of education in favor of better medical fees, there has arisen a disproportion between medical and surgical fees which is largely responsible for fee splitting. One general practitioner gave an illustration in this way. He said he took Jenny B. to a surgeon for appendicular operation between attacks; the father paid the fee of one hundred dollars. Six months thereafter, he protested a bill of twenty dollars for attendance on his other daughter for a severe and prolonged attack of pneumonia. So long as there are miserable medical fees and this disproportion between medical and surgical ones, the fee splitting cannot be stamped out. There must be a good living wage for honest medical service, or members of our profession will fall into dishonest practices, and sink into the mire of dishonor itself. The righteous course for our

profession to pursue it, while not distressing the deserving poor, to be careful not to put a premium on mere stinginess.

Medicine has made contribution to every calling in life. It is our high duty to go farther. We must not continue the silence of centuries any longer. We must educate the public in the scientific principles of medicine far enough to give them ground to judge in their true light the sophistries of the quack and the charlatan. The osteopathist, Christian scientist and chiropractor succeed with even the supposedly educated and intelligent, because they teach the public their theories of disease and healing. To tell a patient that his bile has become thickened and that the grooming he is about to receive will make the bile more limpid, is an explanation not above his comprehension. What we must do is to educate the public till such an explanation will not be entertained. The greatest publicity should be given to the achievements of regular medicine since it became worthy of being a science. Should not every school child know that through our profession the average human life has been doubled; that in the last twenty-five years, eight years have been added to the average length of life; that it is to our profession that every civilized nation looks to wipe out plagues and hold back and even arrest epidemics? We have given the widest publicity to vaccination against small pox with happiest results. Why not give publicity to the equally valuable vaccination against typhoid fever? Our battle against tuberculosis has been a publicity campaign in which the laity has not only believed, but has actually joined with us in great force. The enlightenment of the public in this will render it impossible hereafter for the heartless quacks to thrive upon the ignorance of the consumptive victim. If the battle against cancer, the twin monster of tuberculosis, gains this publicity together with a similar sympathy and active support from the laity, our triumph over this disease is to be within the life of many in this room. Let us never grow tired of impressing the fact that it was the regular profession which discovered anaesthetics, abolishing pain and agony off and on the operation table, and that it will not be in the power of the human race in the future to duplicate a boon to humanity like antiseptic surgery. In spite of the fact that serum has cut the fatalities of diphtheria in half, in addition to putting into our possession the most potent agent against the spread of this dread disease of childhood, that the Spanish American Main has been swept clear of the yellow fever scourge, and that we have not only the cure for malaria, but also the power to wipe it off the face of the land, yet there are, both among the ignorant and intellectual, those who declare that medicine has made no advancement in one hundred years, and all this because we have not given the widest publicity to our achievements. In the expressed opinion of Lord Salisbury, medicine is the most exact and advanced of

all the true sciences. It has rendered tributary to itself the knowledge of every walk in life.

In conclusion, while I have unflinchingly probed these festering sores on the surface of our professional body, I hasten to declare the heart of it to be sound and flawless, jetting out from its valves a fountain stream of all that is splendid in the history of science and humanity; matchless in progress, matchless in achievement, and matchless in future outlook.

ADDRESS IN SURGERY—FRACTURES AND THEIR TREATMENT.*

BY J. ALEX. HUTCHISON, M.D., L.R.C.P. & S. (EDIN.)

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IT is a great privilege to be permitted to read an address on surgery at the annual meeting of the Canadian Medical Association. When your President, influenced largely, I think, by kindly feelings toward myself, invited me to read the address, in a moment of vanity I consented, and since then I have felt the responsibility more and more as the time of the meeting approached. I wish therefore to express my appreciation.

In the choice of a subject, I have been influenced largely by the fact that during the past few years, more especially since the introduction of radiography, the subject of fractures and their treatment is, perhaps, of more general interest to the members of this association than many other subjects which might have been considered.

Time will not permit me to go into details as to the particular treatment of a particular fracture. My object is rather to consider the subject as a whole, and to make a brief review of the various methods in use, presenting a few of my own observations gathered from twenty-two years' experience as a surgeon and assistant surgeon to the Montreal General Hospital, which institution, from its situation in the centre of the largest city in our country, and within half a mile of the head of ocean navigation, has perhaps, the richest clinic in fractures in Canada.

It has been stated that in the midst of all the wonderful advances in medicine during the past thirty years, and more especially in the advances in the surgical treatment of diseases, our knowledge and treatment of fractures is much as it was in pre-Listerian days.

An exception is admitted in the treatment of compound fractures. The work of Sir William Macewen, in Scotland; Sir Arbuthnot Lane, in England, and J. B. Murphy on this continent, during the past ten

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years, however, has drawn the attention of the profession to this subject, with the result that many radical changes have taken place, not only in our knowledge of bone regeneration and repair, but also in our treatment.

How far the introduction of radiography is responsible for the change it is difficult to say. It has at least added enormously to our knowledge and precision. In a brief review of the subject it is necessary to deal first with:

REPAIR.

It was formerly held that the periosteum was the most important tissue and that largely from it bone repair took place. Our treatment, therefore, consisted largely in attempts to cover divided portions of bone with its periosteal envelop. Where disease or injury to bone resulted in destruction of the periosteum and uncovering of the bone, we were taught to expect death of the bone at least in part. It is clearly demonstrated, largely through the experimental work of Macewen, that the periosteum itself cannot reproduce bone, and it acts as a mould, guiding and controlling new growth.

It has been a common clinical experience to find little or no callus thrown out over that portion of a fracture protected with untorn periosteum, or where a splint or other support pressed uniformly against a fracture with torn periosteum, and that in the same fracture with extensive laceration and destruction of periosteum, producing large gaps, extensive, excessive, and irregular callus developed. Thus we learned the well-known rule of the carpenter, "the thinner the layer of glue the stronger the join," and efforts were carried out to limit and control excessive callus formation.

Our present knowledge of repair of bone may be briefly summed up as follows:

- Hemorrhage, which is always present to a greater or less extent.
- Inflammatory exudate of leucocytes, serum, and fibrin.
- Proliferation of bone cells of osteo-genetic power (osteo-blasts).
- Formation of a matrix of proliferating blood vessels carrying osteo-blasts.

Osteoblasts once formed proliferate rapidly, lime salts become deposited and new bone is formed.

During this process large cells, derived also from the bone cells appear, called osteoclasts, which have the power of destroying bone, thus removing unnecessary callus.

These changes vary in individuals in accordance with varying conditions of health, and show greatest activity in the young. Thus we have great regenerative power in the young. Conversely, in older individuals, proliferation is less marked and the osteogenetic cells more

rapidly perform their evolution and become complete bone; proliferation ceasing before complete repair of a destroyed portion of bone has taken place. Hence delayed, incomplete, and frequently non-union results.

While bone grows principally from epiphyseal cartilages, after their artificial removal, osteoblasts from the diaphysis in a measure fill the space, and while the process greatly lessens diaphyseal growth it does not entirely cease.

The thanks of the profession are due to the British Medical Association for the report on the treatment of simple fractures recently published. This report has done much to remove many misconceptions, and I am glad to notice among its findings, that the non-operative treatment of fracture in children under fifteen years gives a high percentage of good results. Also that in children, with the exception of fractures of the forearm, open operation does not give better results than the non-operative.

Sufficient time has not yet elapsed since the publication of this report to allow a proper appreciation of all its findings. Much valuable knowledge, however, has been put before the profession. We may look forward with interest to the investigation of the American Surgical Association, the preliminary report of which was recently read at Washington by Dr. J. B. Roberts, chairman of the committee.

We may divide the treatment of fractures into four general groups:

1. Fixation with splints. Rest.
2. Fixation with splints and extension by weights as advocated by Buck many years ago, and also during recent times by Bardenheuer.
3. Ambulatory, mobilization, and massage.
4. Operative or open method.

From these various methods it is difficult to choose, but it is well to keep in mind their usefulness as adapted to the special features of a given fracture. Versatility is the successful instrument, and, for the average practitioner, no one plan should be adopted for routine practice; in fact, routine practice may be said to be the cause of most of our failures. At the same time it should be the aim of each man to adopt a definite scheme of treatment and carry out its details sufficiently in each case to familiarize himself with its advantages and disadvantages.

Those of us who have had much to do with fractures become familiar with a certain line of procedure and gain a certain technique that may bring good results to us, which, when applied by others, may result in disaster. It cannot be too strongly stated that for the man who sees only an occasional fracture the simplest form of splint, and rest combined with extension for certain fractures, will give the best results.

SPLINTS AND REST.

This is the oldest form of treatment of fractures, and it is very accurately described in the earliest Egyptian medical records. The simplest forms are those made of a thin board, moulded plaster of Paris and poroplastic felt. As a rule, moulded splints, sold in sets for special fractures, are objectionable. Experience is required to apply them accurately, and, in the absence of the proper size, one is very apt to use the next available size, which may or may not fit the case. Moulded plaster of Paris, in the form of the Bavarian dressing, requires some experience to apply, but is a very desirable splint when accurately adjusted to the injured part. Poroplastic felt is excellent, although somewhat expensive material, and is very easily moulded.

It is hardly necessary to point out the advantages of the use of such splints, chief of which is, that it enables one readily to expose the parts and replace them without discomfort to the patient, and at a cost of an additional strip of adhesive plaster or a bandage.

This method, combined with extension by weights, is perhaps the safest and more useful form of dressing for fractures of the long bones, more particularly of the femur, and I know of no better apparatus than Bucks' extension with coaptation splints and a long Liston splint. The dressing, while comfortable to the patient, necessitates almost daily attention, as the rapid atrophy of the thigh muscles requires that the coaptation splints be frequently tightened. As a rule, sufficient weight is not applied. For an ordinary adult about ten pounds should be applied at first, rapidly increasing until spasm of the muscles has been completely overcome. This requires from four to eight days, and the weights can be increased up to thirty pounds. The weights need not be kept on continuously if the patient suffers from pain.

Coaptation splints should also be removed from time to time to allow of massage of the limb, and more particularly gentle movement of the knee joint. After the spasm has been once controlled, the weights can be diminished. Care should be taken, as has been frequently pointed out, that the splints should not be applied so firmly as to interfere seriously with circulation. In fractures of the shaft of the humerus, occasionally weights are required, but as a rule if the patient is allowed up every day, and the supporting sling is kept well down to the wrist and not near the elbow, the weight of the dressings and the limb is sufficient to give the necessary extension.

AMBULATORY.

I have had little experience with the ambulatory method in the treatment of fractures of the lower limbs. Their use requires very considerable experience. While the advantage to the patient of being able to be about and in the open air is undoubted, the control of the patient,

and of his apparatus, requires more attention than is usually possible outside of hospital practice. My own practice is to get all patients, excepting those suffering from fracture of the femur, out of bed at the earliest date, while the patient is still in the fixation apparatus.

BARDENHEUER METHOD.

This method, advocated many years ago by the great German surgeon, has many advantages, more particularly for those who have had an extensive experience. The apparatus is only comfortable when properly fitted, and requires constant attention. When one has familiarized himself with the details, the treatment is an excellent one, and gives good results. However, it should not be used by a beginner. One great advantage of this method is that the damaged limb is more or less exposed and the apparatus permits of lateral as well as rotatory traction, and Bardenheuer lays great stress upon the importance of taking advantage of this.

As a hospital man, I should like to point out a not uncommon practice which has nothing to commend it, that of immediately replacing the displaced fragments of bone in cases of recent fracture, and applying an elaborate fixation apparatus, such as a plaster of Paris dressing in cases which are immediately to be removed to a distant place, and where the patient will come under the care of another practitioner. Such cases seen as an emergency should be put up in the simplest form of dressing, and the patient should be told that the dressing is of a temporary character. It is well to supply a letter addressed to the physician who is expected to take subsequent care of the case, explaining what has been done.

Many instances have come under my notice where an elaborate dressing, such as I have described, has been applied, the patient departing at once and coming under the care of another practitioner. Often the second practitioner has not the moral courage to cut down the plaster of Paris dressing; he therefore assumes all the responsibility of the case, and is certain to come into whatever censure may occur, without really having had anything to do with the actual replacement of the fragments and application of fixation apparatus. The laity should be taught that it is a fallacy to suppose that the so-called setting of a fracture should occur at once after an injury, without regard for the surrounding circumstances. It has been our common experience that many fractures are discharged with good alignment and apparently firm union, which, seen many months later, show marked angular deformity. While it is difficult to control the actions of patients, who have apparently fully recovered, more particularly those cases which are discharged from the public wards of the hospital and pass completely from the observa-

tion of the attending surgeon, we have perhaps not taken sufficient steps to protect our own reputations. All such cases should be kept as long as possible under observation, or until good bony union has taken place.

The old-fashioned method of using a bedroom pillow, supplemented with strips of board on either side, is still an excellent dressing, especially in fractures of the leg. Plaster of Paris dressings are difficult to properly adjust, and should never be used until one has acquired considerable skill in their application. In my opinion there are certain parts of the body where plaster of Paris should never be used except by surgical experts, that is, in fractures of the shaft of the humerus and femur, and in obscure injuries about the elbow and knee joints.

MOBILIZATION AND MASSAGE.

We owe very much to the French surgeon, Lucas Championnière, and while very few English-speaking surgeons have been daring enough to carry out his practice in detail, I think we have all appreciated the value of massage and frequent inspection of the injured limb, while at the same time using some definite fixation apparatus. Lucas Championnière has again and again drawn our attention to the fact, which I think had been previously mentioned by Thomas, of Liverpool, that too rigid fixation diminishes reparative bone production, damages the soft parts and stiffens the joints and tendons, so that the patient, when at last freed from his dressings, suffers more in recovering the use of muscles and joints than from any other cause. The originator of this method has pointed out that the massage must be gentle and never carried to a point of producing pain.

Against this method, however, there can be little doubt that the early recovery which has been claimed for it is often at the expense of anatomical deformity. We must, however, always appreciate that to Lucas Championnière, more than any one man, we must acknowledge our thanks for the introduction of the combined methods now so universal on this continent.

The method of extension by the use of nails and traction apparatus, suggested by Steinman, and also the methods of Lambotte, of introducing pegs united to a frame held outside the wound, have very serious objections. The danger of an open wound, through which is introduced a foreign object to the centre of a long bone, leaves a wide-open door for infection.

OPERATIVE OR OPEN METHOD.

No subject in surgery is engaging the attention of the profession at the present time more than the operative treatment of fractures, and before proceeding to discuss this method I will draw your attention to the following very important sections of the British Medical Association report:

Section 10. "It is necessary to insist that the operative treatment of fractures requires special skill and experience and such facilities and surroundings as will ensure asepsis; it is therefore not a method to be undertaken except by those who have constant practice and experience in such surgical procedures."

Section 11. "A considerable proportion of the failures of operative treatment are due to infection of the wound, a possibility which may occur even with the best technique."

Section 12. "The mortality directly due to the operative treatment of simple fractures of the long bones has been found to be so small that it cannot be urged as a sufficient reason against operative treatment."

Section 13. "For surgeons and practitioners who are unable to avail themselves of the operative method, the non-operative procedures are likely to remain for some time yet the more safe and serviceable."

All operative procedures are becoming easier to an increasingly large proportion of our profession doing surgery, and the probability is that this applies also to the operative treatment of fractures. Mr. Robert Jones, of Liverpool, very tersely states "that the indications for operation will clearly differ from the individual standpoint of the surgeon, and no rules can be laid down. The surgeon with the least mechanical resource will operate most frequently." Those who have seen Lane operate might be led to believe that the proceeding is a simple one, but this is not so; as many of you are aware, Sir Arbuthnot Lane has developed a technique and dexterity which perhaps is unequalled; therefore, it follows that the proceeding is a rational one for him to carry out.

Personally, I have had an open mind, and my practice has been to operate on cases which I was unable to reduce or retain in good position, more particularly in fractures in the upper part of the humerus, upper part of the femur, both bones of the forearm, and in spiral and oblique fractures of the tibia. My experience has been that the open method is a most satisfactory proceeding, and each operation becomes simpler to perform than the last. No one should operate without having a full supply of the heavy holding forceps, originally suggested by Lane, and of which there are now a number of different types. The practice of Mr. Jones should also be kept in mind: that of keeping up extension by pulleys during the operation. A combination of these two measures makes the operation much easier.

The length of time for repair is undoubtedly longer, and each patient should be especially warned that the early mobility of the limb is due to the introduction of plates and not to bony union, so that such cases should be kept under observation for a longer period, and external supporting apparatus should constantly be used. One case recently un-

der my care has been very instructive, although the point is not new, having been referred to a number of times by others. A plate was applied to a fracture in the lower third of the tibia, and the patient discharged in a long plaster case. He returned once a month, the cast was removed, and at first there was not movement; later, there was a little definite movement. An X-ray showed a rarification of the bone in the neighborhood of the top screw. I cut down and found the plate was almost embedded in new bone; the top screw was loose. I removed the plate and screws and put the patient in a new plaster cast; he returned in a month and had good firm union. This was a case where, apparently, the mobility, as suggested by Lucas Championnière, had finally resulted in union.

In the treatment of compound fractures I have found that the use of a plate, or wrapping the bone in wires, is of great value, but when such proceeding is carried out, the plate is only put in for the first few weeks to control the parts, and must invariably be removed before the wound will, or is allowed to, close. I have made it a practice in all cases of carrying out Lane's suggestion of covering the plate with muscle, fascia, or fat, and in one or two cases where this was not completely done, or where the parts tore away late, I found that I was obliged to remove the plate; in short, the plate should never be allowed to lie exposed immediately below the subcutaneous tissue.

The Committee of the American Surgical Association, in considering the British report, points out that all methods of non-operative treatment have been grouped together in a comparison, and considers that a true estimate of the value of the non-operative method should include a classification to the end that the best non-operative treatment could be laid before the profession. In this view I am in hearty accord, as I take it that the object of both reports is to place in the hands of the average man the most desirable method of treating non-operative cases.

The American report further points out that, on this continent, the usual treatment is not limited definitely to a fixed plan, but is a combination of several methods. The committee, therefore, in its primary report, believes that prolonged immobility, with continued fixation by means of external splints, or apparatus, should be abandoned, and recommends that the treatment should depend upon three classes of practitioners:

1. The average general practitioner, unskilled in surgery as a specialty.
2. Surgeons with the usual facilities of small or cottage hospitals.
3. Surgical experts with adequate hospital facilities.

For the first, they recommend the mixed method which is practically in use with most of us, laying stress on the importance of a general

anesthesia for diagnosis as well as reduction, combined with the use of an X-ray. For the second class the report suggests that the operative treatment be restricted to especially rebellious fractures after the case has been watched for a few days. For the third group, early operation in all cases which cannot be properly reduced and maintained in good position.

Dr. Roberts has associated with him men of wide experience in the care of fractures, and the final report will undoubtedly be a guide of great value.

In doing my first open operation for fracture of the patella many years ago, I was surprised to find the amount of hemorrhage and damage to the neighboring soft parts. Since doing the open method on apparently simple fractures of long bones, I have marvelled at the good results obtained in non-operative treatment, in view of the extensive laceration of the soft parts, and the interposition of muscles and other tissues.

RADIOGRAPHY.

The value of the discovery of the X-rays in the diagnosis of fractures was early recognized, and it is hardly necessary at this date to refer to the great aid that has been given, not only in the diagnosis of the fracture, but as a guide to satisfactory treatment. It should be remembered, however, that many factors enter into the consideration of a given case. Two plates, one antero-posterior and one lateral, should invariably be used. The diagnosis should not be limited to an examination of the plates, but a careful examination of the injured limb should always be made. A second fracture in the same bone, or a fracture of a neighboring long bone at a higher level may be present, although not shown in the plate.

The possibilities for distortion in a given case depend upon the position of the fracture and the experience of the X-ray operator. The importance of this has not been properly appreciated, more particularly by general practitioners. Distortion of displacement is always present in fractures of the long bones and in fractures of the pelvis.

The public has much to learn in regard to X-ray distortion, and it is difficult to know what our position should be in regard to showing plates to patients and their friends. These persons expect to see the plate, and yet are not sufficiently experienced to appreciate the various conditions which exist in a given case. The impression is therefore left that the fractured bones may not be in good position, when in reality they are.

While it is quite possible to continue the treatment of fractures as in the past without the aid of X-rays, the general practitioner should not undertake the care of obscure fractures, more particularly those involving joints, without at least giving his patient the opportunity of going to some neighboring point where the use of an X-ray plate may be

obtained. I, in common with others, have had a number of instances where acute synovitis has masked the presence of an important fracture. Only recently a case came under my observation, where the patient was unable to walk or to straighten out his limb some months after a fall which produced a severe synovitis of the knee joint. X-ray demonstrated the presence of an impacted fracture involving the articular surface of the tibia. I opened the point and found a knob of callus in the centre of the joint displacing the semi-lunar cartilage; the knob was chiselled off and the cartilage removed.

MEDICO-LEGAL ASPECTS.

It is unfortunate that fractures have always been the source of much medico-legal anxiety to our profession. This has been made greater with the introduction of the use of X-rays. The time has come, I think, when this association could quite properly investigate our position in regard to the courts and our patients, to the end that some definite legal method, fair to all parties, could be introduced into our court procedures. The situation could hardly be worse than at the present time, where X-ray plates of fractures are passed about the court and interpretations taken therefrom, not only by the court, but by lawyers, jurymen, and others; this without any effort being made to have the meaning of the plate explained by medical men competent to offer such information. As long ago as May, 1900, a report of the American Surgical Association stated that, "Skiagraphs alone without expert surgical interpretations are generally useless and frequently misleading."

Dr. J. B. Murphy recently reported a dislocation of the shoulder joint, where the head of the humerus was behind the glenoid fossae, yet the X-ray showed normal position. In a United States court recently a medical man was held responsible in damages to a large amount, not because the deformity resulting from a fracture was due to lack of skill, but because there was deformity, and the medical man had not recommended the use of an X-ray, although there was no X-ray apparatus in the town.

There is also the question of ethics to be solved. How far a medical man engaged in the practice of radiography is within his rights in selling plates showing fractures which have been under the care of other medical men, without these medical men being consulted.

The development of workmen's compensation acts in our own and other countries, where employers are responsible for the payment of compensation for injuries, makes the whole subject of fractures of greater interest than at any time in our history, and if the time has not yet come for defining our responsibilities it must be close at hand, and I trust this Association will not be behind other organizations in laying before the profession and the public the best means available for the treatment of fractures.

INTERNATIONAL MEDICAL CONGRESS

THE CANCER PROBLEM.

The two sections on chemical pathology and bacteriology and immunity held a joint morning session at the Royal College of Science, under the presidency of Dr. F. Gowland Hopkins, to discuss the subject of cancer.

Dr. E. F. Bashford, director of the Imperial Cancer Research Institution, opened the discussion with a discourse on the bearing of immunity reactions on the nature of cancer, his remarks being freely illustrated by lantern diagrams and photographs of experiments upon mice. Out of a great deal of work, he said, a very little had come. Renewed interest was being taken in the relationship between some forms of cancer and chronic irritation, and in the recurrence of cancer in various native races, it having been noted that the natives of some countries practised certain curious customs that altered the anatomical distribution of cancer. In India, for instance, where the wagon harness was attached to the right horn of cattle, it was always in the right horn and never in the left that cancer developed.

Turning next to the experiments, Dr. Bashford said the early experience gained from the grafting of cancer of the mouse had been amplified in the laboratories of the Imperial Cancer Research Fund by many experiments on other animals—dog, rabbit, guinea-pig, and rat—in all of which true tumors had been transplanted. Immunity signified nothing more than the exemption, under clearly defined circumstances, of one individual from the consequences of transplanting a tumor from another individual of the same species.

The employment of the term immunity with reference to cancer in the present state of our knowledge was really wrong, because the resistance which could be induced artificially to the continued growth of grafts did not create any exemption from the liability to the development of cancer. It was also certain that cancer was rarely, if ever, communicated naturally or spontaneously from one individual to another by transplantation, and that its great frequency could not be explained in that way. The use of the term "immunity" could only be justified by convenience.

There was general agreement that the normal tissues of tumors of one species of animal were incapable of progressive growth, or even of continued existence, in another species, and in conjunction with other studies this had a bearing upon the question of whether an immunity was induced analogous to that against infective disease by showing that when

induced it did not depend on a virus common to cancer in whatever species of animal it occurred.

Although some tumor strains were relatively indifferent to age, no strain had been found which grew better in old than in young animals. Young animals were, as a rule, more susceptible than old. The rarity of cancer in the young was not due to constitutional resistance to growth, and its frequency in the old was not due to a constitutional change occurring with senescence, favorable to the growth of cancer in general. This conclusion had led to determining whether animals naturally suffering from disease offered a more suitable soil than others for the growth of cancer in general. It was found that they did not do so. The growth of a tumor led to hindrance to the growth of the animal bearing it, so that very young animals might remain dwarfs as compared with others of the same age that had remained free from tumors.

A problem of great interest centred in the difference between the great susceptibility of grafts to active resistance, and the relative or absolute insusceptibility of established tumors. The contradiction was of primary importance in any discussion of the nature of cancer immunity. It had not yet been completely resolved. Some facts of great importance stood out as having possible bearings upon the nature of cancer. Tumors varied in all degrees in their power to induce resistance, and in their susceptibility to it, however induced.

The difficulty was that the loss of power to induce resistance on homologous inoculation was not combined with a loss of susceptibility to resistance. Loss of power to induce resistance, while having also local, had constitutional consequences. Insusceptibility to resistance would have similar consequences.

The delicate reactions thus far revealed had admitted of a little penetration into what a few years ago was quite unexplored territory. At present their study appeared to show that the etiology of cancer was complex, and compounded of both local and constitutional conditions. Although it was not yet possible to be sure of the interpretation of the few new facts and their relation to one another, any day might bring some other fresh fact or facts to light, permitting of a harmonious explanation. Further speculation must be avoided, for there is need for more investigation in the new field of experimental biology which the study of cancer had opened up.

Dr. Lazarus Barlow, of the Middlesex Hospital, referring to the work done at the hospital, said one of the great difficulties in regard to cancer and the chemical side of cancer lay in the fact that the disease was so mysterious in its inception and took so long to recognize, and was subject to so many degenerating circumstances, that one was never cer-

tain whether the changes found in the body of a person suffering from cancer were strictly due to the cancer or were accidental. For that reason, though he would not be unduly pessimistic, he believed the chemical side of the cancer question would first be satisfactorily dealt with when they were able to produce cancer artificially in animals at will. In the course of the discussion the kaleidoscope had been variously turned. He would give it yet another turn.

He had found in a considerable number of cases of cancer that the element of radium was itself present. Radium was a subject of such extreme potency, a substance concerning which we knew little, yet we knew sufficient to tell us that it was possible, he might even say probable, that many of the processes of the body were affected by it. It had been possible in his laboratory to show a number of conditions which must profoundly alter the fluids of the body whenever radium was present. He had found in a variety of normal tissues a quantity of radium which was represented by 1. In the non-cancerous tissues of persons with cancer the proportion was represented by 23. In the metastases it was 55, and in the primary site 51.

Apart from the question of the actual discovery of the elements of radium in cancer, he had investigated the amounts of radium in gallstones. The co-existence of gallstones had been noted in cancer for many years, and it had been suggested that cancer and gallstones had some close relation. Every gallstone had been in a gall bladder, and if the chronic irritation of gallstone was likely to produce cancer, one would expect that cancer of the gall bladder would be frequent. But, as a matter of fact, it was rare, and was always associated with the presence of a gallstone.

He had, therefore, investigated the amount of radium in different varieties of gallstones. Again, if the gallstones were taken from non-cancerous cases, there was practically no radium at all, or it was just on the verge of detectability, and might be represented by 1. Taking the gallstones in cancer generally, excluding cancer of the gall bladder, the amount of radium in the gallstones was represented by 5. The gallstones in carcinoma of the gall bladder were represented by 84.

He did not wish to push this question too far, but it was perfectly clear to his mind that in their future work with regard to cancer, whether they considered it from the point of view of chronic irritation or of chemical pathology, it was necessary to determine whether or not radium played a part in the problem. Further, it had been found in the laboratory that there was more potassium in cancerous than in non-cancerous patients. Thus he might fairly claim to have given the kaleidoscope a new turn.

THE SOCIAL EVIL.

Members of the combined sections of Dermatology and Forensic Medicine met in the Albert Hall, in order to discuss the dangers of the scourge in connection with which many leading doctors have recently been urging the Government to appoint a Royal Commission. Sir Malcolm Morris, one of the signatories to the manifesto to the Government, occupied the chair.

Professor Dr. A. Blaschko, Berlin, who opened the discussion, urged that State laws in reference to the infection were indispensable. The so-called regulation had not proved an active means of diminishing venereal diseases in any country, chiefly because it did not include the most dangerous individuals. In place of regulation, a system of purely sanitary measures should be set up, which, recognizing that all sources of infection could by no system of supervision be excluded, should seek especially to make these most dangerous elements innocuous.

Such a system, for instance, as that already existing in Norway, should apply equally to both sexes, and should not officially label individuals or impose exceptional regulations, such as registration, inspection, and police control. While for most cases it would suffice to facilitate for all citizens opportunity of treatment, it would only be necessary in the case of specially dangerous classes, the youthful, the weak-minded, and the depraved to institute measures of compulsory education.

Professor Dr. Ernest Finger, Vienna, was in favor of measures being taken for the education of youth showing the dangers of syphilis, and also of the education of diseased persons themselves. Treatment, he said, should be made as easy as possible.

Dr. W. A. Brend read a paper prepared by Major H. C. French, R.A.M.C., which dealt mainly with the subject of State control. The question of venereal diseases, he said, must soon become crucial in Great Britain under the insurance scheme, and in time they must become notifiable by reason of the heavy cost to the State, apart from all other considerations. Those diseases cost the country millions of pounds; they filled many homes with preventable misery, they overcrowded our workhouses, prisons and lunatic asylums with imbeciles, idiots, criminals, epileptics, and other insane persons; they sapped the vigor of the nation, and if uncontrolled might eventually endanger its very existence.

Coming to the important question of prophylaxis, there were two essentially different modes of State intervention. First, the system known as regulation, which implied registration and attendance. The second mode was to require doctors and others to notify all cases of actually existing disease in persons in whatever class or sex to the health authority, who inquired into the means of segregation and treatment (as in the

case of other infectious diseases), and was empowered to remove the patient to hospital if necessary. In the case of poor persons this implied a certain outlay for hospital accommodation and food, but it repaid the State a hundredfold.

Some essential principles in the control of the scourge culled from twenty years' practical experience in many countries were as follows: Confidential medical notification of disease on *prima facie* evidence and medical treatment for short periods in the early activity; contagious stages of disease; the effectual control of openly practised prostitution by the localization of irreclaimable women into certain areas or streets; the rigid suppression of *souteneurs*; the suppression of loitering and solicitation in the streets; the provision of free voluntary dispensaries for certain classes; the control of diseased merchant seamen, who spread the worst form of disease at seaport towns; punishment by fine or imprisonment for concealing disease; the marriage of diseased persons discouraged by law under ten years from date of contracting the disease.

Such measures might not completely deal with this difficult social problem, but they were the condensed experience of practical work as opposed to theoretical considerations. They were the bedrock on which an adequate superstructure could be laid. They did not conflict with public morality, but minimized disease, misery and death. That the disease could be effectually controlled in a community was fully exemplified by personal experience of the work in India, Egypt and Malta, but it was first necessary to get legal control in the manner in which small-pox and other much less dangerous diseases were controlled.

Professor Gaucher and Dr. Gougerot, of Paris, in a joint paper, suggested that the transmission of the scourge should be made a penal offence. They urged the re-education of fallen women, and suggested that the rights of a legitimate wife should be accorded to the victim of seduction, while a lover who deserted a mistress should be liable to punishment, either penal or pecuniary. Protection should be given to young girls by after-school education through the institution of workroom instruction, and earlier marriage should be encouraged.

Professor Dr. Erik Pontoppidan, Copenhagen, said that, despite the laws in force in Denmark, medical men would not act as police inspectors. They desired to keep the confidence of their patients, and would only put the powers they possessed in force in particularly dangerous cases. If the law was severely enforced it would mean that the patients would not go to the doctors.

The part of the law in Denmark which had worked well was that which went in the direction of enlightening the patients about the disease and the risk of contamination. The improved facilities for hospital

treatment had also been useful. He was opposed to a system of notification, but approved of systematic provision for the diagnosis and treatment of disease.

Dr. Douglas White, London, said that, in spite of the fact that we had not a policy of regulation in this country, the disease was not more prevalent here than in Continental countries. It did not follow, however, that there was nothing to do. In this country there were not fewer than 500,000 fresh infections of venereal disease every year. If they were to grapple with the problem they must do so as a whole. It was a social problem as well as a medical one.

Personally he was of opinion it was no use to apply compulsion, because compulsion led to concealment, and concealment was the one thing to avoid. The most important thing was to get the patient to come for cure early. What was required were beds in all the general hospitals for the treatment of the disease, and a special medical department. Supposing that was done, would the people come for cure? He believed they would come more readily than was expected. The only thing that would prevent them was ignorance, and that ignorance must be combatted by education.

He wished to see lecturers appointed to go round the secondary schools and colleges in order to teach people the dangers of disease, and the value of confidence.

With regard to notification, he considered it desirable that they should have statistical information. He did not see how they could get much progress without it, but the notification should be confidential and for statistical purposes only.

Mr. Ernest Lane, senior surgeon to the London Lock Hospital, considered that the day for compulsion was dead, the era for repressive measures was past. The two remedial measures were education and treatment—education of the public and education of the medical profession. If boys at public schools were given some elementary knowledge of the possibility of disease he believed its incidence would be modified. In each hospital there should be a special department set apart for the treatment of these diseases, as facilities for treatment would certainly modify them.

Dr. Helen Wilson (Sheffield) was in favor of facilities for treatment being provided before asking for notification.

Dr. Woods Hutchinson (New York) said they had had six or eight months' experience of notification in New York, and he was strongly in favor of it, for one reason, because it ensured proper treatment.

The Chairman proposed the following resolution:

That, sensible of the ravages wrought by syphilis in the health of the community, and deploring the inadequacy of existing facilities for

checking its dissemination, the International Medical Congress calls upon the Governments of all the countries here represented—

1. To institute a system of confidential notification of the disease to a sanitary authority, wherever such notification does not already obtain.

2. To make systematic provision for the diagnosis and treatment of all cases of syphilis not otherwise provided for.

They all hoped, he said, that the appeal that had recently been made to the British Government for a Royal Commission would not fall on deaf ears. Confidential notification was the pre-requisite of any effective action by the State to check what Lord Morley characterized as "this hideous scourge." The ease with which the disease could be communicated, the enormous number of those who were its innocent victims, the inadequacy of proper means of treatment, were facts of which the general public were almost entirely ignorant, and they were most imperfectly appreciated even by legislators.

An end must be put to the silence in which this subject had too long been shrouded. Local authorities were encouraged to build fever hospitals, and in a thousand ways the State stretched out its long arm to safeguard the health of the community, but it did not lift a finger to protect the nation from this devastating pestilence, which more ruthless than the Destroying Angel smote the unborn babe.

When the first part of the resolution recommending confidential notification was put to the meeting a number voted against it, though it was carried by a considerable majority. The second part was agreed to without dissent.

RISE, SPREAD AND SEVERITY OF EPIDEMICS.

"The factors that determine the rise, spread and degree of severity of epidemic diseases" formed the topic set down for consideration by the section of hygiene and preventive medicine.

Dr. M. Greenwood, Jr., of the Lister Institute, introduced the subject by submitting an exhaustive "report." Discussing the various aspects from which the question might be considered, Dr. Greenwood gave a good deal of attention to the vicissitudes of scarlet fever, particularly in relation to London during the nineteen years ending with 1910. The general conclusion, he said, seemed to be that while probably scarlet fever was becoming both less prevalent and less fatal, the latter change was decidedly more distinct than the former.

Next tracing the possible causes of these changes, Dr. Greenwood submitted that in deciding such questions a knowledge of epidemiological history, combined with a firm grasp of the statistical method, were as essential parts of the outfit of the investigator in that field as was a

grounding in bacteriology. It was, in his opinion, along the lines of Dr. Brownlee's work, in applying practically mathematical considerations to the question, that future progress must be looked for, although the expressions Dr. Brownlee had so far developed did not, he thought, take sufficient account of the objective asymmetry which characterized many epidemic distributions.

Professor Sticker, Bonn, in another report, declared that in discussing the conditions of development of parasitic epidemics they must leave systematic conceptions or theories on one side, and study each epidemic in its historical, geographical, biological, and other aspects. Incidentally, too, Dr. Sticker supported the theory that cholera was due to the cholera bacillus turning nitrates into nitrites.

Dr. J. Brownlee, Glasgow, said the investigation of the different causes that determined the course of epidemics was at present very incomplete. A proper mathematical form for the progress of an epidemic was not yet known, and though approximations adequate to describe a solitary epidemic might be obtained, these were not sufficiently accurate to admit of application for the purposes of prediction. Though modern hygiene might to some extent have limited the size of epidemics, it had done almost nothing to alter their form.

Thus, the great epidemic of smallpox in London in 1902 ran a course precisely similar to that seen in like epidemics in the eighteenth century, both in its rise and fall. It was not commonly thought, and, in fact, even after special explanation it was not easily believed by many people, that an epidemic was on the decline from the moment it began. If, however, the number of flies caught per week was considered, it was readily seen that the ratios of the numbers from week to week were declining ratios. Thus, taking the year 1908, the number of flies caught in London in the last week of June was 2,700; a fortnight later it was 5,000, a fortnight later 8,900, after another fortnight 13,500, and then the decline began. Thus, though the ascent was continuous, the ratio of increase was consecutively smaller in spite of the weather being favorable for the propagation of the fly. With each generation the energy of fertility present at the beginning definitely declined, or, to state it differently, the number of flies did not increase in a geometrical ratio, as might be assumed, since the powers of reproduction continuously decreased.

It was this fact which gave the typical form to all epidemics, and unless this fact were recognized no satisfactory basis for a theory of epidemic could be devised. Though infectivity was being lost from the first minute of an epidemic, they had it increasing until the factor of loss of infectivity became equal to the factor of infectivity itself. When these neutralized one another the epidemic began to decline. Though

they could not hope to be able to estimate the value of all the factors sufficiently to predict an epidemic accurately, yet they were able to get very much closer to it than they once were.

Noting, in conclusion, the results of investigations he had conducted into the recurrence of summer diarrhoea in Glasgow—investigations based on the figures for a long series of years—Dr. Brownlee said he found that it was the temperature of June that determined the date of the epidemic, though the amount of the epidemic was determined by the temperatures of July and August. Though governed very largely by the weather of the year, the epidemic was determined to a very considerable extent by the epidemic of the previous year. If they had a large amount of summer diarrhoea one year, they might expect a large amount in the next year. In the matter of date the correlation was even greater. If the epidemic was early one year, it was early the next; if late one year, it was late the next.

Dr. Hamer (London) said that in listening to Dr. Greenwood's paper the question was suggested to his mind whether the infecting organisms were lions or jackals. Certain epidemic diseases which had recently occurred in London—cerebro-spinal fever, suspected rat-plague, and human glanders—seemed to justify the suspicion. Bearing in mind the comparative lightness of London's visitations, in relation to what was occurring elsewhere, one wondered whether the organisms found were really the causal organisms, or whether they were secondary invaders—whether, in other words, they were lions or jackals.

Dr. Jamieson (Melbourne) spoke of the striking decrease in typhoid which took place in that city after it had a drainage system introduced. He was afraid they were not very near the solution of the epidemic problem.

Dr. Goodall (London) recorded the result of certain investigations he had conducted into cases admitted to the Eastern Fever Hospital. In the last eight years, he said, the fatality percentage of the scarlet fever admissions, which averaged 1,210 annually, had decreased from 3.6 to 1.3. In the same period the percentage of malignant cases had fallen from .79 to .22. In anginous cases, too, the percentage had dwindled from 15.1 over 228 cases to 2.9 over twenty-six cases. In 1911, out of 701 cases of scarlet fever admitted, not one was of a malignant variety, and there had been only four cases of that variety among 2,149 cases admitted during the past three years.

In an experience of twenty-six years he had witnessed scarlet fever, and to a less extent diphtheria, gradually becoming less severe. But he had not observed the same course of events in typhoid fever and measles; nor did he think that these diseases were on the whole less severe, when severity was measured by fatality, than they were a quarter of a cen-

tury ago. A consideration of these facts drove him to the conclusion that alterations in the severity of these diseases—certainly of scarlet fever—depended upon alterations in the virulence of their causes, assuming them to be micro-organisms.

He believed he was correctly expressing the opinion of most clinical observers of experience when he said that many of the symptoms of the disease they knew as scarlet fever—certainly many of the complications—were due not to the causative agent, but to secondary invaders, especially streptococci.

“Some results of measures taken against Beri-beri in British Malaya” formed the subject of a paper read before the Tropical Medicine Section by Mr. W. L. Braddon. Epidemiologically, he said, and speaking broadly, beri-beri amongst rice-eating natives was due to nothing more or less than the use of rice which had been deprived of most of its surface-layer, of cells containing aleurone—which had, in fact, become “deglutenized.”

He then cited various instances where the disease had disappeared, or had been strikingly reduced, as the result of the substitution of whole for white rice. In thirteen principal hospitals of Malay, admitting some 3,500 cases of beri-beri annually, and having the worst mortality, the death-rate had been brought down from an average of over 30 per cent. to under 15 per cent., in other words a saving of at least 500 lives annually. In every hospital whole rice had now been adopted, with in every case the same marked results.

Subsequently, by a large majority, the section adopted the following resolution:

1. In the opinion of the Tropical Diseases Section, beri-beri amongst natives whose staple food is rice is induced by the continued and too exclusive consumption of the grain in a highly-milled form, by which treatment the cortical and sub-cortical layer is completely removed.

2. The section urges upon all authorities responsible for the health of native communities the encouragement by every means in their power of the restriction of rice in this character.

3. In view of the proved non-infectiousness of beri-beri, this section suggests to all port and sanitary authorities the propriety of abolishing quarantine and other restrictive measures at present in operation.

Surgeon-General Sir David Bruce presided over the Tropical Diseases Section, which gave its main attention to plague and its spread by rat-fleas.

In his opening address the President referred to the fact that at the last international congress in London, in 1881, there was no special section set apart for tropical medicine. In truth, there was little material

to form such a section at that time. Since then, however, the subject had grown rapidly, and its literature was now enormous. Citing the topic of yellow fever, the president referred to the different views then entertained in regard to it as compared with those that prevailed now, but he remarked that admiration was due from them to the acumen of some of the old investigators who came so wonderfully near the truth.

Professor S. Kitasato (Japan), who read a paper on "The value of the search for rat-fleas in the detection of plague," stated that the pulmonary and the bubonic plague had quite a different mode of infection, although they were both caused by the same kind of germ, that is, the pulmonary was exclusively conveyed from man to man, while the bubonic was spread by the rat. Therefore a different method of search for the germ should be applied in each case. The pulmonary cases could be best checked by the early discovery of the patients and the segregation of the persons who were suspected of having come into contact with them.

Bubonic plague prevailed chiefly among rats before it raged among men; so that the germ was spread by them. Its prevention would be incomplete if the discovery and elimination of the plague-rats were not attempted. In Japan the destruction and bacteriological examination of rats were constantly carried out in such ports, cities, etc., as were suspected of the importation of the germ. The bacteriological examination of rats might lead not only to the discovery of a new invasion, but also to the determination of the degree and extent of the infection. Since the Indian Plague Commission established in 1906 the flea theory it had been studied in its various phases. All results tended to uphold the theory.

It had been discovered that disinfection that would kill the plague germ had no effect upon the flea. The disinfection of plague consequently should be insecticidal as well as germicidal. In Japan, "Disinfectol," prepared from the by-products of camphor, had been applied with at satisfactory result. The rat-proof arrangements should, of course, never be neglected, for the exclusion of rats would actually clear the houses of fleas.

In cases where plague was suspected guinea-pigs had been let loose, and fleas collected from them examined, and the conclusion he came to was that the detection of the plague germ might be made most satisfactorily by the guinea-pig test. In fact, besides the bacteriological examination of rats, this test constituted one of the necessary requirements of plague prevention.

Major W. Glen Liston, M.D., who discussed the epidemiological features of bubonic and pneumonic plague, said the prospect of checking pneumonic epidemics where infected persons were the sole distributing agents of infection, was much more hopeful than the prospect of bring-

ing to a close an epidemic of bubonic plague where rats and their fleas were the chief agents which disseminated the disease.

A study of modern epidemics of bubonic plague, especially those for which accurate records had been kept of the number of deaths from the disease, showed that plague suddenly appeared in a district, and that generally, in the larger cities at least, for a series of years, epidemic followed epidemic, those of the earlier years being as a rule more severe than the later, till gradually the epidemics declined in severity and the disease finally disappeared, irrespective of any special measures taken to check it.

As the result of many experiments on rats in India, it was found that the progeny of rats which had suffered from plague and recovered inherited the immunity of their parents. He concluded, therefore, that the decreasing severity of epidemics in a particular town which had suffered from repeated outbreaks of plague was due to the generation of a race which was comparatively immune to plague by a process of selection and survival of the fittest, and it was not difficult to understand that under these circumstances such a place might remain for a time at least free from epidemics of bubonic plague.

Professor C. J. Martin, director of the Lister Institute, contributed a paper, in which, by the use of lantern slides, he demonstrated the mechanism of the transmission of plague by fleas. The tropical belt of the world, he remarked, was the one where plague did not flourish. Directly the weather got too hot, plague epidemic was knocked on the head.

The successful accomplishment of the recent engineering feats in the Panama zone have only been possible by the eradication of the yellow fever scourge, which formerly rendered the districts through which the great canal has been led practically impossible for white laborers. Similarly, in the British Empire large areas in Egypt and other parts of Africa have been rendered more and more habitable for British colonists, until it is doubtful if the once popular term of "white man's grave" can rightly be applied to any part of that continent which has come thoroughly under the administration of our Government.

Brilliant as have been the efforts of individuals in bringing about these satisfactory results, it is efficient sanitary organization that has finally made possible our chief victories over tropical disease. Much still remains to be done in India, Africa, and the Far East, to protect settlers, as well as natives, from the insidious pestilences that so quickly develop and gain the upper hand in tropical countries; but each year a greater knowledge is gained of the causes of these maladies, and a greater understanding obtained in regard to their prevention.

DOCTORS AND TEMPERANCE.

Two hundred doctors drawn from all parts of the world gathered at the Grafton Galleries, prior to attending the Medical Congress, as the guests of the National Temperance League, and there were some interesting speeches on temperance and alcoholism.

Sir Thomas Barlow, who presided, said the progress of temperance in this country had been very remarkable indeed in almost every rank of society. It was delightful to chronicle the improvements that had taken place in the Army and Navy, and one of the great factors in this change was the way the officers looked after their men, and the striking example set in the officers' mess.

In the commercial class the change had been enormous. It was now recognized that a man in these strenuous times was not fit for commercial life unless he had done with that old period of tipping and nipping. The administration of alcohol in hospitals had undergone nothing less than a revolution. The old days when alcohol was ordered as a matter of course were, happily, passing away. Now the medical man, if he ordered it at all, prescribed how much was to be given and for how long.

They must not live in a fool's paradise, however, for the drink bill in this country was enormously large. They had a most mischievous thing in the way of medicated wines. In the pathology of medicine nothing was more remarkable than the way in which alcohol annexed itself to, and reinforced, other poisons. "Do let us," said the speaker, "adopt the common-sense view and stamp out these medicated wines. Let us if we are going to give alcohol prescribe it direct, and not allow it to be taken in unknown quantities."

There was one thing which would do more good than anything else, and that was, if they would pardon him saying it, the example of doctors themselves. He begged those who had come to the conclusion that they could do better without alcohol, as he had, to speak out and use their influence. They would find that this was of great moral value, even to the poor inebriate in the last ditch.

Sir Victor Horsley said that the campaign against alcohol was not a new one. The medical profession lodged an objection to it 200 years ago. In 1845 the profession again raised a protest. And now the great medical congress was setting up another landmark by their present meeting.

Sir Alfred P. Gould (vice-president of the National Temperance League) said they must submit this question of alcoholism to the most exacting scientific research, and then, as scientific men, insist that the teaching of science should become the basis of our national life.

A NEW DISEASE.

Professor N. E. Brill (New York) read a paper on an acute infec-

tious disease similar, perhaps, to a modified form of typhus fever. He stated that he had finally succeeded in getting the clinicians in New York to recognize that this disease was an entirely different malady from typhoid fever. The disease had symptoms of a slight attack of typhus. The onset was usually sudden, with increasing fever, and it was marked by a peculiarly violent headache.

A very similar disease was known in South Africa as Potchefstroom fever. It was not contagious, and was very incommunicable, and out of 321 observed cases there was only one death. The disease was chiefly confined to the poor, though isolated examples had been observed among the well-to-do. Dr. Brill concluded that the disease might be an atypical typhus fever.

DEFECTS OF DIETARY.

In the Mechanics Theatre at the Royal College of Science the members of a sub-section of the section of chemical pathology discussed the subject of pathological conditions due to diet, under the chairmanship of Dr. F. Gowland Hopkins, of Cambridge.

Dr. H. Schaumann gave an opening address, in which he said it had been proved by recent investigations, and in opposition to the conception generally accepted until a short time ago, that complete nutrition did not depend only on the foods content of a sufficient amount of the main nutritive substances, namely, albumin, carbo-hydrates, fat, mineral compounds and water. The compositions of the albumin ingested, and the presence in the food of certain stuffs which were unknown, and consequently neglected formerly, were of just as much importance for the maintenance of the organism in the higher animals.

The following were the results recently obtained in this field of research:

A food containing sufficient quantities of all the above-mentioned nutritive substances was nevertheless deficient when its albumin lacked certain cyclic amino-acids (acyclopoiesis or animal organism).

Complete nutrition depended, further, on the presence in the respective foods of certain compounds whose existence had hitherto remained unknown or had been considered unessential. The proportions of these compounds seemed to be very small, and to vary in different foodstuffs.

One of these compounds (vitamine) had been isolated recently, in a crystalline form, and its efficiency, so far as it was an immediate one, defined.

This nitrogenous base was, apart from the nutritive stuffs already mentioned, in all probability only one of several compounds necessary for complete nutrition.

These compounds, existing in foodstuffs in a relatively very small proportion, were accumulated in a much greater amount in some animal and vegetable stuffs, such as yeasts, the pericarp of rice, barley, wheat, etc., the brain, the heart, and the eggs of mammals and birds. The striking therapeutic and prophylactic effect of these stuffs was due to this circumstance.

The respective substances seemed to exist in genuine foodstuffs in a free state, only in a small proportion. The greater number of them were probably constituents of more complicated molecules, some of them containing phosphorus (phosphatides, nucleins).

The mode of action of these compounds was very likely due to an intermediary influence upon the metabolism, and seemed to be specific for every single one.

The absence or scarcity of one or several of these compounds seemed to disturb the metabolism according to its, or their, peculiar mode of action in a specific way, originating thus more or less typical diseases (beri-beri, ship beri-beri, scurvy, Moller-Barlow's disease, pellagra, and others).

The majority of these compounds were labile, and were therefore easily destroyed by long storage, long heating and cooking, alkalies and micro-organisms, or removal by husking and polishing, long cooking, extraction of salt-lye, etc.

The methods hitherto known for the preparation and isolation of this class of compounds were still very imperfect. On this account the attempts to isolate them in a pure state had not been very satisfactory. For the same reason it was difficult to make sure whether these compounds were contained originally in the foodstuffs in a free state or combined with other substances, and of what kind the latter were.

In consequence of the difficulties it was impossible at present to draw a definite conclusion whether the efficiency of the compounds belonging to this class and containing phosphorous was partly due to the phosphorized group of the whole molecule or not. A number of observations pleaded either for this interpretation or for the eventuality that the metabolism of phosphorus was especially favored by one or several of the compounds in question.

Describing experiments upon rats, Dr. Hopkins stated that in each experiment he took a group of animals (seldom less than a dozen), and placed them upon a dietary presumed to be deficient. He then took a similar group and placed them upon exactly the same dietary, but with the addition of the substances of which the capacity to replace the deficiency was being determined. Save for presence or absence of this (usually very minute) addendum, the conditions of the two groups were in all respects the same.

In the result he found that whenever the artificial mixture, the pure protein, pure fats, together with mixed salts, formed the basis diet, young rats invariably ceased to grow. Individual varieties were, of course, weight of each animal became stationary, or fell off.

DUST AND LUNG DISEASE.

“The Effects of Dust in producing Diseases of the Lungs” was the topic of most general interest discussed before the Section of Hygiene

and Preventive Medicine, which met in the Lecture Theatre of the Victoria and Albert Museum, South Kensington.

Dr. Edgar L. Collis, His Majesty's medical inspector of factories, said that until recent years the tendency had been to consider, as a broad truth, that dust inhalation predisposed to diseases of the chest, of which pulmonary tuberculosis was the chief. Closer investigation, however, was proving that the subject was more complicated; that respiratory diseases caused by dust varied with the nature of the dust inhaled; that although a special type of pulmonary tuberculosis followed upon the inhalation of certain dusts, it was not associated with the inhalation of all kinds of dust; and that other forms of chest disease, which, though not equally fatal, seriously impaired the respiratory organs, were set up by inhaling special forms of dust. His object, he proceeded to say, was to demonstrate some of these differences, and to point out that there was underlying the phenomena, order, even though at present but imperfectly understood.

Dusts, he further explained, might be considered in three classes—animal, vegetable and mineral. Animal dusts included horn, bone, leather, silk and wool; vegetable dusts included wood, jute, flax, hemp, cotton, cork, and flour; while mineral dusts embraced many different materials, such as iron, steel and brass, plaster of Paris, cement, lime, glass, slag-wool, emery, clay, stone, alabaster, quartz and flint.

Discussing “cotton-strippers' asthma,” Dr. Collis showed that the trouble was rapidly disappearing owing to improved methods of dust prevention, which were even enabling affected men to resume their employment. Considerable ingenuity had been displayed in perfecting these methods, and pardonable satisfaction might be expressed that four years after attention was drawn to “strippers' asthma,” not only were effective means for removing the dust installed in every spinning mill in Lancashire, but the example set by this country was being followed by mills abroad.

NAPOLEON'S LAST ILLNESS.

Old controversies were revived and new theories advanced when the section devoted to the “History of Medicine” considered two papers dealing with the death of Napoleon Bonaparte. Dr. Guthrie read an in-

teresting and detailed paper, in which he asked the question, "Did Napoleon suffer from hypopituitarism at the close of his lifetime?" This condition is one to which medical science has only recently turned its attention; it has relation to the pituitary gland in the brain, whose functions are not at present fully known.

Dr. Guthrie discussed the condition of Napoleon in the closing years of his life, and pointed out the gradual decay of his mental faculties; his increasing lassitude, fatigue, and prostration; the increase of corpulence and chilliness, and lowered bodily temperature (indicated by the exile's frequent recourse to hot baths in a temperate climate). These symptoms were not entirely explained by the disease from which he was supposed to have suffered, and pointed to the presence of hypopituitarism.

It was pitiful, said Dr. Guthrie, to trace the mental decadence of this mental giant. Napoleon became a bore, and in the last five years of his life degenerated into a pettish, querulous, and irritable old man. These things pointed to some trouble of a cerebral nature. The brain, he added, was never examined at the post-mortem, and this theory he advanced was one that could never be definitely determined.

Dr. Chaplin, in a paper on "The Fatal Illness of Napoleon," asked the members of the historical section to consider themselves in the position of a tribunal or commission, called together to consider the following questions:

1. What were the diseases from which Napoleon suffered during his detention on the Island of St. Helena?
2. What were the probable causes of those maladies?
3. How far did the post-mortem examination substantiate the clinical evidence of those diseases?

The medical evidence was to be found in books or reports furnished by eight medical men—O'Meara, Stokoe, Antommarchi, Arnott, Shortt, Henry, Rutledge and Burton. The last four were present at the post-mortem only.

Up to the end of 1817 O'Meara, who was in attendance on Napoleon, attributed his illness largely to his invincible determination to live a life devoid of exercise, and calculated to break most of the ordinary rules of health.

Antommarchi arrived at St. Helena in September, 1819, and set himself to the task of attempting to break down his patient's repugnance to fresh air. This he succeeded in doing, and by the end of October was able to describe his patient as well.

After various relapses and attacks symptoms began to appear in September, 1820, which pointed unmistakably to a serious disease in the alimentary tract. By the end of March, 1821, the case was hopeless, but he lingered on, becoming steadily worse, until May 5, 1821, when he

died at eleven minutes to six in the evening. The change in the symptoms in September, 1820, might be fairly attributed to the beginning of the cancer of the stomach which eventually caused his death.

But if there appeared to be little doubt that the ultimate cause of Napoleon's death was cancer, there are still the symptoms from which he suffered during life to be considered, some of which were not in accordance with those of gastric cancer. It had been suggested that inflammation of the liver (hepatitis) existed for three years and a half, and there was a direct conflict of evidence on the point as to whether the post-mortem examination disclosed any signs of hepatitis. Of the eight doctors present Antommarchi alone describes the liver as being affected.

Motives for stating certain facts were of no assistance, because both Antommarchi and the seven British doctors were biassed, the former to support the climatic contentions of the Frenchmen and the latter in support of the British authorities, with their negation of any climatic influences whatsoever.

Professor Arthur Keith had propounded the view that Napoleon's indisposition was due to an endemic form of disease dependent on particular climatic conditions in the Island of St. Helena.

He rested his thesis, said Dr. Chaplin, on two main premisses. The first premiss was based on his contention that two specimens of small intestine exhibited in the Museum of the Royal College of Surgeons, and described, "Incipient fungus of the glands of the small intestine, Napoleon, Barry O'Meara to Sir Astley Cooper," did, in fact, come from the body of the Emperor. On submitting these specimens to microscopic examination, Professor Keith found that the so-called incipient fungus was not cancer at all, but inflammatory in nature, and, indeed, what one would expect to find in a man who had been affected for a long period with chronic undulant fever.

His second premiss was based on the contention that during the three and a half years Napoleon was ill the symptoms exhibited corresponded in the main to those of undulant fever, a condition which would have produced the appearances found in the specimens of the small intestines in the Museum of the Royal College of Surgeons.

TREATMENT OF SLEEPLESSNESS AND PAIN.

Soporifics and drugs relieving pain by their action on the nervous system were dealt with by Professor A. R. Cushny, London, in a paper which he read to the Therapeutics Section in the Imperial College of Science and Technology.

A little more than forty years ago, he said, the list of drugs used for these conditions was but a short one. Since that time there had been a procession of soporifics across the therapeutic stages, each one enjoying a shorter or longer period of popularity, and the duration of their stay

had seemed to depend in some cases not so much on their intrinsic merits as on the arts employed by interested advocates.

Referring to the properties of the ideal soporific, Professor Cushny said that the drug must not be repugnant by its taste or odor. Voices had been heard of late years that in this respect investigators had been only too successful in their search, that the modern hypnotic had become so agreeable that it had tended to enslave the patient to a habit worse than the alcoholic one, and that safety lay only in the use of the less agreeable members of the group and those which betrayed their presence. The argument might be sound in individual cases at present, but a more reasonable view seemed to demand a closer control of the sale of these remedies.

As regarded veronal, cases of poisoning had occurred, but only from overwhelming doses, and these should not cause prejudice against its use in therapeutic quantities. Chloral and veronal had undergone a test extending over millions of cases, were reliable, easily taken, and were practically devoid of action outside the central nervous system. Professor Cushny placed them at the head of the list as proved. Paraldehyde suffered from its unpleasant taste and odor, and from its large dose, and it was not as certain in its action as the first two. On the other hand, it was much less likely to be taken habitually.

With the rise of the new specific soporifics, many of the old drugs used in sleeplessness had fallen into disuse. Cannabis indica had been condemned as unreliable, though its purely soporific action deserved recognition, and it was probably safer than any in use at present. It seemed possible that in combination with some more constant remedy it might deserve some attention.

In the treatment of pain, progress had been slower than in that of sleeplessness. The chief advance in the last half-century had been in the substitution of morphine for opium, and no improvement had been made in the natural alkaloid as yet. The other alkaloids of opium had not been sufficiently investigated in this relation, and it was possible that one of these, or a combination of morphine with one of the other alkaloids (narcophine), might prove to have advantages. The treatment of the symptom pain was one of the most urgent necessities of practice.

Dr. Robert Jones, Claybury, Essex, said that far too little was made of the spiritual part of education. At the asylum at Claybury he had had scores of patients who ought not to be there if they had had proper moral and mental training in early life. He had never seen a pure case of overwork in the asylum, but he had seen many cases of overwork coupled with anxiety, of anxious pupils, prompted by more anxious parents, and very anxious schoolmasters.

Although the period allowed for sleep in the public schools had been extended, there was still more required. For children under five years of age twelve hours should be given, and up to fifteen years of age the period should be at least ten hours.

Discussing causes of sleeplessness, Dr. Jones said that often decayed teeth were overlooked. Astigmatism of the sight and adenoids were further instanced as causes of sleeplessness. These matters should all be attended to. Dr. Jones commended Turkish baths as an admirable remedy. In cases of acute delirious mania, he frequently used alcohol. As a pain reliever, alcohol, he thought, had of late years been underestimated. It certainly relieved pain in doses far smaller than to cause intoxication. If one was afraid of prescribing it in the form of ordinary beverages, it could always be disguised as a medicine, it was absolutely incumbent on medical officers who dealt with early cases of insanity or mental breakdown, to produce sleep at all costs.

Professor Bradbury, Cambridge, expressed the opinion that people slept longer than they imagined, and a great many people slept and did not know. The kind of sleep was an important matter. Some people would sleep soundly for three or four hours and not want any more, not needing as much as others required.

The more he saw of the action of veronal the more he was pleased with it if it was given in proper doses. A good dose of whisky and water would make a man sleep well, especially if he was an abstainer. That had not the disadvantage of paraldehyde.

Sir Lauder Brunton, Bt. (presiding), said that the oldest writer on pharmacology was Solomon, who more than 2,000 years ago recommended as an anæsthesia for both physical and mental pain the use of alcohol. The sentence Solomon wrote was: "The drunkard says, 'They have beaten me and I feel it not. I will seek it yet again.'" That was physical pain; the man did not feel the beating. For mental anæsthesia Solomon's direction was: "Give wine to him that is of a heavy heart, and strong drink to him that is ready to perish that he may drink and forget his misery." That was mental anæsthesia. So they might say that Solomon long ago was working very much on the lines of modern pharmacology.

Professor Burkhardt (Berlin) introduced the subject of intravenous application. Patients suffering from heart trouble and troubles of the circulation were not suitable, he said, for the intravenous method. It was advantageous for operations on the head and neck, and for those who had lost much blood. The intravenous method had the special advantage that the patient did not experience the unpleasant feeling at the beginning of the application, and regained consciousness more quickly without headache or sickness.

Dr. Z. Mennell, anæsthetist to St. Thomas's Hospital, read a paper on the same subject, with special reference to the use of hedonal in intracranial surgery. During 1912, he said, this method was used extensively at St. Thomas's Hospital for a great number of serious cases. The experience thus gained had led him to restrict its use to certain types of cases and to certain operations.

He did not recommend the use of hedonal for operations in connection with the air passage or in cases with high blood pressure. It was useful, however, for operations about the neck, for one reason because the anæsthetist was removed from the site of operation; but its greatest value was in intracranial operations. He had now administered it in 85 of these operations, and had no hesitation in saying that it was by far the safest and most convenient anæsthetic for the purpose.

Dr. S. J. Meltzer, of the Rockefeller Institute, New York, described another method of inducing anæsthesia by intratracheal insufflation, which, he said, consisted of blowing air through a tube that had been introduced into the larynx and deep into the trachea. Prior to its entry into the trachea the tube of air might pass through a bottle containing ether. In that way ether vapor was carried to the lungs. This method had now been tried on human subjects in more than 1,500 operations.

PROCTOLOGICAL SOCIETY OF AMERICA

PRESIDENT'S ADDRESS.

PROCTOLOGY AND PROCTO-ENTEROLOGY.

BY LOUIS J. HIRSCHMAN, M.D., OF DETROIT, MICH.

He stated that, "Proctology came into its own," is in reality the study of the entire intestinal tract, its diseases and their remedies. A Proctologist becomes skilled to a high degree in the medical and surgical treatment of the diseases of the lower bowel. A medical practitioner, sufficiently skilled and competent to treat diseases affecting any portion of the intestinal tract, should be competent to treat all portions. The modern Proctologist, therefore, must be an intestinal surgeon. He must have some knowledge of modern views and discoveries bearing on the digestive tract, as they have a direct bearing on intestinal function and pathology. He should no more limit his activities to the rectum and sigmoid alone, than does the laryngologist to the larynx, or the urologist to the urethra.

An arbitrary line of division which limits a specialist's activities to the lower six or eight inches of the colon is absurd. The Proctologist

has no moral right to withhold his special skill in intestinal surgery from the patient who suffers from diseases of the small intestine or upper colon. The larger problems of intestinal stasis, chronic inflammatory conditions, and malignant diseases of the small and large intestines, demand the best that is in every Fellow of our organization. He should ever study and fathom out the problems of etiology, pathology, and proper therapy.

The establishment of a section on Gastro-Enterology and Proctology in the American Medical Association would greatly increase the value of that organization to every one of its members who comes in contact with diseases of the alimentary tract.

SPHINCTERIC ATROPHY.

CAUSES, CONSEQUENCES AND TREATMENT.

BY RALPH W. JACKSON, M.D., OF FALL RIVER, MASS.

Muscular atrophy about the anus produces more serious consequences than hypertrophy.

The physiology of defecation is studied, and the action of the internal sphincter and of the external sphincter and levators sharply contrasted with their different innervation. This is preparatory to consideration and classification of the causes of sphincteric disuse and consequent degeneration.

Congenital causes are found in imperforate anus and congenital ano-vaginal cloaca. Coincidental with general weakness cases occur in infants, the aged, and the extremely ill. Traumatic causes are faults of proctologic operations and aftercare, or obstetric lacerations, or due to prolonged divulsion by protruding piles or proclidentia. Nerve causes are primarily sympathetic as in rectal stenosis, or central as in spinal cord lesions.

Degeneration or absence of one sphincter without impairment of the other is considered.

The unhappy consequences of sphincteric inadequacy are presented.

Treatment is preventive or restorative. Neither avails much when due to nerve causes, except possibly in luetic cases. Of first importance is the minimizing of trauma, both obstetric and proctologic (especially sphincteric incision). Repair of trauma should be immediate and accurate. Later attempts are much more difficult and uncertain on account of atrophic muscular changes, and often results must depend on cicatricial contraction and adaptation of other muscles, especially the levators, to sphincteric duty. Restoration of long overstretched muscles is largely dependent on general treatment.

Sphincteric deficiency is a troublesome problem to every practitioner, and the prognosis is uncertain.

FURTHER OBSERVATIONS ON THE SURGICAL ANATOMY OF THE LARGE BOWEL.

BY GRANVILLE S. HANES, M.D., OF LOUISVILLE, KY.

Few realize that the capacious portion of the colon is at its cecal extremity. The diameter of the average cecum is estimated at three inches, which is about the same as the rectum, though the cecum and ascending colon have a much greater capacity than the rectum and lower extremity of the sigmoid. The large intestine gradually decreases in size from the cecum to the rectum; the descending colon measuring one and one-half inches, or even less, at its narrowest point. These physical conditions explain in a measure, the locality to which large quantities of fluids are transported when injected into the rectum.

The question of antiperistalsis in the large intestine in man is yet to be settled. It has been suggested that anastalsis may be inferred to exist in the proximal human colon for the reason that rectal enemas have been observed to traverse the entire length of the colon and escape through an artificial opening in the cecum. Also, because surgeons have attempted to stop a fecal-fistula discharge by transplating the ileum into the transverse colon and sigmoid, but without success. The fact that rectal enemas have been seen to pass through the cecal fistula is, he is confident, little evidence of the operation of an anti-peristaltic force.

An ordinary colon tube was introduced two or three inches into the rectum of a dog, and through a funnel inserted into the proximal end of the tube was poured in bismuth-buttermilk, and by the X-ray the author observed it traverse the large intestine to the ileo-cecal junction with no sign of antiperistaltic movements. Similar experiments were made on children with corroborating observations. He has seen a pint of bismuth in suspension, when introduced into the rectum of an adult, pass around to the cecum in a few minutes with no evidence of aid by anastalsis.)

Under normal conditions peristalsis in the large bowel is a slow process, and it is no more than natural to suppose that anastalsis is also slow in its operation. The brief time, then, required for fluids to pass from the rectum to the cecum. The first is the distensible and elastic nature of the intestinal tube; and the second is the hydraulic principle which controls fluids wherever they may be. If fluid is forced rapidly into the rectum that organ will be seen to be widely distended; but this same fluid can be seen to make its way up the intestinal tube along the path of least resistance. The distended rectum, because of its elastic nature, presses upon the contents till every drop of fluid within its lumen is subjected to a nequal pressure. So if additional fluid is forced into the rectum the same factors will continue to operate.

If the ileum is transplanted into the transverse colon or sigmoid the watery intestinal contents will be forced by the elastic intestinal tube in the direction of least resistance. The right segment of the colon is the capacious portion of the large bowel, so if fluids are under greater intestinal pressure in the lower bowel the fluid contents will travel up to the cecum.

Hanes had a series of three X-ray pictures made on the same individual to show what actually happens when tubes are introduced into the bowel. The first, shows a thirteen inch proctoscope introduced its entire length. The distal end is one inch above the umbilicus. The second, shows an ordinary colon tube introduced its full length after the removal of the proctoscope. The tube passed along the sigmoid up to the highest point (one inch above the umbilicus), and then turned upon itself, the distal end passing back into the rectum. The third radiograph shows the bowel injected with bismuth buttermilk, and the thirteen inch sigmoidoscope introduced again. This picture shows that it is impossible to pass any instrument high up in a normal colon, except by the greatest accident. The sigmoid is lifted up into the abdominal cavity; its lower arm is occupied by bismuth and the metal tube; while the upper segment of the sigmoid is seen very distinctly where it has dropped back from a point opposite the umbilicus into the pelvis to its junction with the lower extremity of the colon. He claims the latter radiograph proves that it is impossible to pass a non-flexible instrument beyond the first half of the sigmoid.

To control the outflow of fecal material in colostomies the author has found, in five cases operated since January, of this year, that the hard rubber rod can be allowed to remain permanently, when used as in the Maydl operation. The opening in the intestine is above the rod. A thin gauze dressing is applied over the bowel, and a strip of gauze is thrown around the knuckle of the intestine and overlying gauze is then tied under under the supporting rod. The strip of gauze constricts both the upper and lower segments of the bowel, and exerts a most satisfactory control over these artificial openings.

THE ANO-RECTAL LINE: ITS CLINICAL SIGNIFICANCE.

BY COLLIER F. MARTIN, M.D., OF PHILADELPHIA.

After discussing the development of the anus and rectum, Martin states that the ano-rectal line, or rentate border, has a very important clinical significance, in that it is the point at which both the blood supply and the nerve supply become differentiated. Above it the blood is carried by the portal circulation to the liver; while below it, the blood stream mingles with the general circulation by way of the inferior vena cava.

Above it, the rectum is supplied only with visceral or sympathetic nerve fibres, while below it, the anus and its surrounding structures are supplied with spinal nerves, and by sympathetic filaments. These spinal nerves carry sensory impulses common to nerves having specialized cutaneous nerve-endings.

Below the ano-rectal line, as evidence of irritation of the spinal innervation, sensory disturbances are expressed in terms of pain, itching, formication, and in alterations in spinal sense of touch, and temperature, with their modifications such as dryness and moisture. Stimuli producing these sensory disturbances show their presence by exciting motor contraction, or by inducing alterations in secretion.

Above the ano-rectal line all of the specialized spinal sensations are absent, only the visceral sensations being present. In the rectum it is only pressure and muscle-sense that appeal to our consciousness. This sensation is translated in the brain into a desire for stool, which desire is inhibited or assisted voluntarily, as occasion may require.

Excessive spasm of the involuntary muscles supplied by visceral nerves produces an unpleasant sensation, which differs from pain of spinal origin in that it is difficult to localize, and may be described more as an ache, which is difficult to bear and exhausting to the patient.

Lesions of the crypts of Morgani, since they involve both the visceral nerve supply of the rectum and the spinal innervation of the anus, are associated with many disturbances of the reflexes.

Infection, and malignant processes, occurring above the dentate border, tend to spread upwards, by way of the deep lymphatics, to the pelvic or uro-genital organs, or to the liver, via the portal system. Below the ano-rectal line superficial abscesses result from infections of the proctodeum and the rectal crypts. Malignancy here is associated frequently with extension to the inguinal glands.

In general, there is a marked tendency for pathologic processes to limit their invasion to the embryonic structure in which they began; the ani-rectal line being the "great divide" between the ectodermic and the entodermic structures. Rectal infection, and malignancy, rarely extend below the dentate border, while anal pathology usually remains below this line and the levator ani muscles.

Ano rectal symptomatology is equally differentiated. The subjective symptoms of a pathologic process bear little relationship to the lesion, per se, but depend upon the interference with the functions of the spinal or sympathetic nerve supply of the tissues involved, whether this interference be mechanical, inflammatory or functional.

FURTHER OBSERVATIONS ON PRURITUS ANI: ITS PROBABLE ETIOLOGIC FACTOR; RESULTS OF TREATMENT.

By DWIGHT H. MURRAY, M.D., OF SYRACUSE, N.Y.

Dr. Murray's paper, which is a continuation of his investigations on the etiology and treatment of pruritus ani, gave some new points which he had observed during the past year, and his additional experience in the treatment of patients. He found no reason for materially modifying his former reports, but has gathered data which helped to prove the correctness of his previous work. He found streptococcic infection in three cases of pruritus ani and vulvae, and in four cases of pruritus that had involved the scrotum as well as the anus. These complicated cases improved, with the exception of two vulva cases, by the use of the vaccine treatment.

During the past year Dr. Murray has increased his former series of thirty-two cases, by twenty-five additional cases, in five of which streptococcic infection was not found. These cases showed other infections, which still further proves the cocigenous nature of pruritus ani; and also demonstrates that other bacteria than streptococci may bear a casual relationship, as was hinted in his first paper on this subject.

His cases, so far as he has been able to determine, have not been affected by diet. Since Dr. Murray discovered the infection in pruritus ani he has never interfered with the food of any patient; neither has he restricted them in the smoking or drinking habits. The improvement under the vaccine treatment, without regard to eating, drinking, or smoking, gives him additional proof for the bacterial theory.

During the past year he has carefully investigated as to whether or not the itching extends into the anal canal beyond Hilton's white line, with the result that only in one instance did it extend beyond that point, and then only for a short distance.

His investigations of the past year have given him additional proof that pruritus ani is not caused by any local lesion within the anal canal, and that when such lesions exist with pruritus ani they are coincidental.

In the cases that have been operated for local lesions the pruritus ani has not been permanently improved as a result of the operative procedure.

He said that rectal and general surgeons have observed many cases of fistulae with discharges upon the anal skin, without pruritus ani being present. The same is true of hemorrhoids, constipation, and other rectal lesions, pruritus ani occurring in only a small proportion of such cases.

He, therefore, still holds that when pruritus ani exists in connection with other lesions that it is a coincidence. In his 1912 report he gave a

summary of nine hundred consecutive rectal cases wherein this fact was established fairly well.

He referred to the opsonic index, or more properly the coefficient of extinction of opsonins, and claimed that much valuable information was to be gained by this test.

His work shows that if a complicating infection exists, and other bacteria than streptococci are found to be the sole invading organisms, we must use the corresponding autogenous vaccine. The opsonic index, following a bacterial diagnosis, is the proper method of determining this.

The results of treatment, and the history of patients, prove to him, that if pruritus ani exists with local lesions which demand operation, that the prognosis depends upon whether a skin infection is present or not. If the skin infection is present the local lesions may be cured by the operation, but the patient should not be led to believe that the pruritus ani will also be cured by it. Per contra, if a skin infection does not exist with a local lesion and itching, the prognosis may be that the itching will very likely cease with the cure of the local lesion.

After personal investigation in treating; watching results; noting how cause, effect, and results, dovetail together; comparing these investigations with statements and theories made in text books, and in articles appearing from time to time in medical journals, and containing no definite pathology or scientific reasons for cause and effect; Murray cannot understand how the profession will uphold such theories, rather than the bacterial theory which has been so well proven in his own cases and confirmed by other observers.

The uniformity of the bacteriologic findings is a strong support for the bacterial theory of the etiology of pruritus ani. The chronicity of all the cases; the uniform symptoms; the similar conditions of the skin; the locality; the regularity as to the time of attacks; the uniformity of itching outside of Hilton's white line; the uniform blood findings as to the coefficient of extinction of opsonins; and the fact that all local applications which have given beneficial results in the past have contained a strong germicide; all point directly to a common cause. Further confirmation is found in the uniformly good results of treatment with autogenous vaccine of the variety of bacteria against which the patient has a low phagocytic power; and in the lack of good results by the various haphazard methods of treatment in general vogue.

His reference to fissures in previous papers having been misunderstood by some, he desired to state that he had referred only to fissure-like cracks of the skin, and not to anal fissures or ulcers.

Endo's medium is used to plate the cultures. The vaccine employed is of the strength of one billion to the CC., beginning with two minims, or one hundred and thirty millions.

Dr. Murray gave statistics, in favor of his theory, drawn from three years original work on the subject; he also gave a summary of the results of treatment, showing the favorable clinical results with autogenous vaccines in a large majority of the cases treated.

He summed up his conclusions, as follows:

1st. Results of the past year's work continue to uphold the correctness of the bacterial theory of pruritus ani.

2nd. It is advisable to make a bacteriologic examination of all cases of pruritus vulvae; also of cases of scrotal pruritus.

3rd. The coefficient of extinction of opsonins is a valuable aid in diagnosis in complicated and obstinate cases.

4th. Pruritus ani in this series of cases rarely extends above the white line of Hilton, and it is still subjudice.

5th. The presence of a skin infection with a local lesion begets an unfavorable prognosis for the cure of pruritus ani by an operative procedure.

6th. The absence of a demonstrable skin infection and the presence of a local lesion, with pruritus ani, will justify us in making a favorable prognosis for the cure of the pruritus ani by an operative procedure.

7th. Pruritus ani, with such infection as we have demonstrated, and a lesion existing in the anus or rectum, according to his statistics, is a coincidence; and the latter lesion is not the cause of the pruritus ani.

8th. The sphincter muscle does not allow a leakage of rectal mucous upon the anal skin of one who has pruritus ani, except there is a patulous anus, any more than it does in a normal individual who has no pruritus ani. The moisture of the parts is due to a low grade inflammation of the infected anal skin.

TREATMENT OF FISTULA-IN-ANO.

By J. A. MacMILLAN, M.D., OF DETROIT, MICH.

There are three essentials for the operation for this condition:

1st. An incision that will open up every ramification of the fistulous tract.

2nd. The excision of the fibrous tissue which forms its walls.

3rd. Free drainage, and a regulation of the granulation by means of pressure by gauze packing.

ABSTRACTS OF PAPERS READ AT THE THIRTY-FIFTH ANNUAL CONGRESS OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION, HELD IN WASHINGTON, D.C.

CONGENITAL OCCLUSION OF THE POSTNASAL ORIFICES, WITH REPORT OF A CASE.

Dr. Charles W. Richardson, Boston: In July, 1912, a case came under my observation in which there was complete osseous obstruction of the postnasal orifice at as early a period in the list history of the patient as any observer has noted such a condition. In a search of the literature I have found only a few cases in which the obstruction was observed in infancy. While it is not possible to tabulate all the cases recorded in the literature, I judge that they do not exceed one hundred. The obstruction of the postnasal orifice may be membranous or osseous. The former are usually found posterior to the nasal cavities in the nasopharyngeal cavity, but lie in contact with the postnasal orifices so as to completely obstruct them, while the latter are usually placed within the chamber within a millimeter or more from the free border of the posterior nasal orifice. To these two forms may be added congenital atresias by which the bones entering into the formation of the postnasal orifice become united, thus more or less completely obstructing the postnasal orifices.

The child that came under my observation in July, 1912, had marked difficulty in breathing. The child struggled for air and the face became suffused and slightly cyanosed, the condition being relieved when the child began to cry there would be a recurrence of the difficult breathing. Examination demonstrated without doubt a deformity which was a complete obstruction of the postnasal orifices. By the end of the second week the child learned to maintain mouth breathing and also learned to feed in a short time, and has developed in a normal manner. The question is: When is the proper time to operate? The marked success with this case seemed to favor the expectant surgical policy in these cases.

FOREIGN BODIES IN THE ESOPHAGUS, WITH REPORT OF TWO CASES.

Dr. Cornelius G. Coakley, New York: The first patient, a boy 16 years of age, thought he had swallowed a piece of plate in his soup. He had a temperature of 105 degs., rapid pulse and pneumonic area in the right lung, when first seen. Examination of the pharynx showed edema extending from the vault of the nasopharynx as far down as one could see with the laryngeal mirror, or feel with the fingers. It much resembled a retropharyngeal abscess. The X-ray showed a triangular

shaped foreign body. It was jagged and evidently had cut into the mucosa, and the secretion from the infected pharynx passing into the larynx, setting up a septic pneumonia within twenty-four hours. The boy died fourteen hours after the operation, from acute septic pneumonia. This case shows the necessity for the prompt operative relief for removal of sharp foreign bodies. The same day I saw a boy three years of age who had swallowed a coin. The X-ray showed the coin at the level of the sixth cervical vertebra. The child had no symptoms. The coin was removed by operation and the child suffered no subsequent discomfort. In this instance the coin had been in position for five days before it was removed.

SYMPOSIUM ON PHLEGMONS OF THE UPPER RESPIRATORY TRACT—REPORT OF A CASE.

Dr. F. E. Hopkins, Springfield: This case illustrates the possibility of erosion of a large blood vessel. The patient was a male, 26 years of age, of poor resistance because of leading an irregular life and having had a recent acute illness. He had suffered from measles and while convalescing took cold. There was marked swelling on the left side with severe pain, but the patient was not prostrated and at no time did his temperature go above 101 degs. F., or his pulse above 80 or 90. Deep incisions were made, but these yielded no pus, and there was no evidence of pointing. Two days later a hemorrhage occurred which was controlled by pressure. On the following day a terrific hemorrhage occurred and quickly proved fatal. Such an examination as could be made immediately following death showed rupture through the posterior pillar, the flood from the eroded carotid finding exit there. Such a mass of cellular infiltration should be explored with a blunt instrument, even the finger, following unfruitful incision. The wonder is not that phlegmons threatening life occasionally develop, but rather, considering the frequency with which infections of this region occur, that they are so rare that an active professional life may pass and not a single one come under observation. Microscopic findings are of little value in determining the treatment of these cases. Early and effective drainage is the best assurance of a favorable prognosis. Suffocation from flooding of the larynx by the sudden rupture of an abscess has been reported, and tracheotomy has been required because of closure of the pharynx by infiltration and edema, but the complication I wish to emphasize is that of erosion of blood vessels by the necrotic process.

INFLAMMATION OF THE LATERAL COLUMNS OF THE PHARYNX LEADING TO ABSCESS FORMATION, WITH REPORT OF CASES.

Dr. Henry L. Swain, New Haven: Any isolated mass of lymphoid tissue can in a general way be expected to act when inflamed exactly

after the fashion of the faucial tonsil, and can have, like the latter, simple, acute, follicular, rheumatic, diphtheritic and phlegmonous inflammations. The adenoid or pharyngeal tonsil may have acute as well as chronic inflammation. The same is true of the lingual tonsil. If we continue to remove root and branch from young children all of their adenoids and faucial tonsils, there will be abundant need to devote more and more attention to these masses of lymphoid tissue as well as to the lingual tonsil. In years gone by, when adenoids were removed from children and the faucial tonsils were left untouched, the latter subsequently enlarged into a perfectly healthy growth, as though needed by the system. If the faucials are thus ruthlessly removed, there will be enlargement of the lingual tonsil or lateral columns of the pharynx, as there has been of the faucials following the older simple adenoid operation. If this is logically true, we will find not only acute inflammations of these structures, but also phlegmons. We have assumed more or less arbitrarily that as the lateral column of the pharynx is no mean mass of lymphoid tissue, and as it has been known to have all other kinds of inflammation to which lymphoid tissue is heir, we have a logical right to expect that there may also be the phlegmonous type, and I propose to submit facts concerning certain cases confirmatory of this statement. I recently had six cases of edema of the larynx in two of which there was no quinsy at all. There was inflammation of the lateral column of the cord in both these instances, and there was in one a marked general, what may be called rheumatic infection, where various joints of the body were affected, but with no persistence of the symptoms in any one place for any length of time. In these various cases of edema one has to look some other cause than pressure.

PHLEGMONS OF THE UPPER RESPIRATORY TRACT.

Dr. John O. Roe, Rochester: The phlegmon is simply another name for inflammation, although clinically it is regarded as an extraordinary intense inflammation and looked upon as being of more or less malignant character. We may have an inflammation of this character in any part of the body, the intensity of which may depend upon the virulence of the infection and the resistance or lack of resistance of the patient, or of the tissues, to such infection. Owing to the difficult breathing or choking which such inflammation causes in the upper air passages, it has received the name of agina. Inflammations of a severe grade, termed phlegmons, may involve any portion of the upper respiratory tract. We almost invariably find a phlegmon attacking one whose general condition has become weakened. The treatment of these infections requires no special law unto itself, and must be dealt with according to the location and associated complications.

REPORT OF A CASE OF PHLEGMON STARTING AS A PERITONSILLAR ABSCESS
AND EXTENDING DOWNWARD AS FAR AS THE SECOND
RING OF THE TRACHEA.

Dr. George L. Richards, Fall River: This case had its origin primarily in a peritonsillar abscess and secondarily in a diseased tonsil, and is a good example of a severe phlegmon.

PRIMARY CARCINOMA OF THE EPIGLOTTIS, WITH REPORT OF A CASE.

Dr. Emil Mayer, New York: Primary cancer of the epiglottis is a rare disease, and up to the present time the treatment has consisted of surgical intervention or the use of radium and the X-ray. I have seen two cases of cancer of the epiglottis. The first case was diagnosed as probable malignant disease of the epiglottis, and the subsequent history was that of primary epithelioma of the larynx with subsequent metastasis, laryngectomy, and death. The second case was that of a man 64 years of age, who consulted me for some slight difficulty in swallowing, especially the swallowing of cold liquids. His general condition was good. Examination showed some edema of the uvula, and numerous small white spits on the tongue and inner surface of the cheek. The condition was diagnosed as leukoplaki buccalis. He gave no history of lues. After treatment he improved somewhat, but this did not last long, and some six or seven months later there was discomfort in swallowing a nasopharyngeal catarrh, and the white patches still present. There were no other evidences of a diseased condition in the throat. About three weeks later a new condition presented itself on the laryngeal surface of the epiglottis. There was a deep ulceration surrounded by a thickened mass. The pathologist pronounced this cylindrical celled carcinoma. Here I had a case of carcinoma of the epiglottis in its earliest stages. The epiglottis was removed, after the patient had been enesthetized and the suspension laryngoscope placed in position. There was little bleeding at the time of the operation, but twenty-six hours after, the patient began to expectorate large quantities of blood. This bleeding was checked by the application of ice internally and by sprays of peroxid of hydrogen. He left the hospital in ten days. This was the first operation of its kind ever performed under the ingenious suspension laryngoscope of Killian.

NITROUS OXID GAS, ESSENCE OF ORANGE, ETHER AND SEQUESTRATION IN
GENERAL ANESTHESIA FOR OPERATION IN THE UPRIGHT POSITION. . .

Dr. Thomas R. French, Brooklyn: We are now able to state that as a result of the movements of the new operating table, and also as a result of the tests made in our clinic at the Long Island Hospital, that operative work in the upright position can be done with still less loss of

blood, with the need of still less of the anesthetic, and with less disagreeable conditions during recovery from the anesthetic. Sudden changes in posture or sudden disturbance of the body while the patient is under a general anesthetic, predisposes to shock, the effects of which are manifested both during the operation and during the recovery from anesthesia. After a careful study of this phenomenon, I became impressed with the value of elevation of the body from the recumbent position to the upright position without jarring, and this led to the construction of the chair table. By the aid of a new attachment all the movements of the body are now made with as great freedom from jarring and disturbance of balance, with infants and very small children, as had hitherto been possible only with adults or larger children. The resulting improvement in conditions leaves no doubt of the accuracy of the observation. One of the most important and valuable recent additions to methods of anesthesia is the ability to omit or bridge the second stage, or stage of excitement, and we have been impressed with the desirability of attaining narcosis without struggle. This can be accomplished with nitrous oxid gas, but with greater ease and certainty with the essence of orange. The discoverer of the remarkable effects of the essence of orange as a preliminary to ether, Dr. Gwathmey, of New York, has demonstrated the possibilities and has proven to our satisfaction that it greatly assists in the reduction of shock by bridging the stage of excitement. Anesthesia conducted in this way up to the time of raising the body to the upright position is a contributory factor in reducing hemorrhage and also in reducing the quantity of anesthetic and in shortening and modifying the anesthetic after-effects. Irrespective of all other conditions, there is a well-defined relationship between the degree of skill in which a patient is anesthetized in the upright position and the amount of hemorrhage is reduced if the anesthetic is smoothly given. A preliminary use of nitrous oxide gas or the essence of orange and the drop method of anesthesol, followed by the drop method of ether with the open inhaler, and later with the Allis inhaler, will insure a prolongation of the anesthesia after the body has reached the upright position, a reduction of hemorrhage, and a reduction in disagreeable sequelæ. Sequestration of the limbs produces a congestive hypermia, and is produced by means of inflated blood pressure cuffs about the thighs and arms; this reduces the amount of blood in the head. This, in association with the upright position which has been carried out in fifty-eight cases during the past season, reduces still further the amount of anesthetic required and still further the loss of blood. There need be no apprehension of subsequent bleeding.

TRAINING OF THE SPECIALIST.

Dr. Thomas J. Harris, New York: An advance movement to properly standardize our specialty is essential. The time is now ripe. As an outline for a more definite working basis, some such plan of instruction for special work may consist in the following divisions: First, thorough preparation in the undergraduate medical school; second, a general preliminary training through several years of practice or hospital internship; third, at least six months of special instruction covering not only the clinical side, but the anatomic, pathologic, surgical, etc., as well; fourth, eighteen months of internship in a special hospital; fifth, at the conclusion an examination by a university which should confer upon the successful candidate a postgraduate degree. The committee appointed to investigate and report on this subject is strongly of the opinion that the postgraduate instruction should be given in some established university, and further, that to make this departure a success, legislation will be necessary. The committee is of the opinion that any success in this movement must be the result of concerted action on the part of the several societies representing America and Canada.

HISTORY OF A BRONCHOLITH, BRONCHIAL CALCULUS, OR LUNG STONE.

Dr. Walter F. Chappell, New York: This case is cited to show that all causes of asthma are not centered in the nose, nor all throat coughs in the larynx. The patient was a woman, 52 years of age, who was attacked by severe wheezing, the spasmodic cough lasting an hour at a time, and by intense tickling in the throat. The tickling was below the larynx, and the wheezing in the upper part of the chest, in front and behind. The patient soon raised a small calcareous mass, but the asthma continued. Another coughing spell resulted in the expulsion of a large calcareous mass. Immediately all wheezing stopped and the breathing became absolutely free. Later another calcareous mass was coughed up. Chemically these masses consisted of phosphate of lime. The patient gave no history that would give a clue to the cause for the existence of this condition.

THE REMOVAL FROM THE ESOPHAGUS OF A PLATE OF FALSE TEETH EMBEDDED FOR EIGHTEEN YEARS, BY MEANS OF THE ESOPHAGOSCOPE.

Dr. D. Braden Kyle, Philadelphia: This foreign body which I present was very difficult to locate, in spite of its size and shape, on account of the granulation tissue which had organized into fibrous tissue, together with the curvature of the spine, as the X-ray picture shows. The patient swallowed the upper suction plate with four front teeth attached while sleeping. The plate lodged in his throat, and a physician who was called in wished to push it down into the stomach, to which the

patient objected. He then went to a hospital where, after the passage of several instruments, he was assured that he had never swallowed the plate or that it was no longer in the esophagus. For a few weeks after the patient felt slight pain in the lower part of the neck at the point he always felt that the object had lodged. After that time there was no sensation, but swallowing has always been difficult. The Kahler esophagoscope was used, and many attempts were made before this foreign body was successfully removed. By loosening the plate from the fibrous bed by setting up slight inflammatory action and then waiting a few days, the plate was removed without much ulceration of the structure.

PRELIMINARY REPORT CONCERNING THE PASSAGE OF BACTERIA THROUGH
THE TONSILLAR TISSUE AS DETERMINED BY EXPERIMENTAL
RESEARCH.

Dr. George B. Wood, Philadelphia: From a study of our experiments it seems that the following conclusions may be drawn: 1. The tonsils in the hog are more readily infected by the anthrax bacillus than any other portion of the buccal or pharyngeal mucosa. The clinical history of this disease in the hog shows that in the great majority of idiopathic cases the pharynx has been the site of invasion, and in all of these cases of pharyngeal diseases the tonsils are the port of entry. In none of my experiments was there any involvement of the pharyngeal or buccal mucosa other than the tonsils. While the culture of anthrax was generally brought into more intimate contact with one of the tonsils, it was impossible to limit the bacilli to the tonsillar surface, and they came into contact with a large part of the pharynx. In the infection an effort was made to rub the emulsion into one tonsil only and in one case the lesions were limited to one tonsil only, but this was not the tonsil on which the culture had been rubbed. 1. Anthrax bacilli penetrate through the cryptical and not the surface of the epithelium. 3. The anthrax bacillus probably gains access to the parenchyma of the tonsil by passing through the living, unaltered epithelium, and having gained access through the superficial layers of the epithelium, they tended to multiply in the deeper layers and then pass into the interfollicular tissue. 4. The anthrax bacilli penetrating through the living normal epithelium cause a devitalization of the tissue, which paves the way for secondary infection from the staphylococci or other pathogenic organisms. 5. The rapidity of the invasion is influenced both by virulence of the organism and the susceptibility of the individual animal. Following the invasion the subsequent course of the disease is similar to that found in other tissues. The toxin elaborated by the bacilli causes at first an accumulation of polymorphonuclear cells, later necrosis of the tissue

cells with disintegration of the nuclei. The germanating follicles show more resistance to the disease than the interfollicular tissue. Associated with the necrotic process is an increase in the number and engorgement of the capillaries, and sometimes there is marked extravasation of the red blood cells. The anthrax bacilli accumulate in the lymph spaces and also around the blood vessel walls. In some of the sections examined the bacilli were found penetrating the blood vessel walls, and a few were found actually in the blood current.

PERSONAL AND NEWS ITEMS

Ontario.

Dr. J. Y. Ferguson, of Renfrew, who has been a missionary of the Presbyterian Church in Formosa, Japan, is home on furlough, as is Rev. Gillies Eadie, of Honan, China.

Miss E. M. Paul was appointed superintendent of school nurses, to succeed Mrs. W. E. Struthers (Miss Rogers), at a meeting of the Board of Education. The appointment is merely provisional for a year at a salary of \$1,200. Miss Paul has been a member of the staff of school nurses in Toronto since 1911.

Dr. F. F. Carr Harris, M.R.C.S., left recently with nine others for missionary service at Honan, China, under the auspices of the Presbyterian Foreign Mission Board, was tendered a luncheon by prominent men of Toronto.

Dr. W. H. B. Aikins, Toronto, attended the 17th International Medical Congress and spent some time in London and Paris investigating the recent advances in radium therapy at the laboratories there. He returned home the end of September.

Dr. C. R. Dickson, Toronto, attended the meetings of the American Electro-Therapeutic Association in New York City, September 25th, and was re-elected a member of the Board of Trustees for the three-year term.

Despite the efforts of a certain doctor's counsel to have the case tried in the privacy of the Women's Court, Magistrate Denison called the doctor in the regular court and fined him 50 and costs or three months on each of two charges of selling cocaine for other than scientific or medicinal purpose.—*Toronto Daily Star*, September 5.

Dr. H. B. Coleman has taken over the vaccine form at Palmerston. This business was established by the late Dr. Stewart and managed recently by Dr. Scanlon. We wish Dr. Coleman every success.

In August, 1913, the infant mortality, in Toronto, was extremely

high. Of the total deaths at all ages 57 per cent. were of children under two years of age, as compared with only 45 per cent. in August, 1912, and 50 per cent. were of children under one year, as compared with 38 per cent. in August of last year. In comparison with the total population, the infant death-rate under one year of age was over one-half higher than in August of last year.

The health reports for August for Toronto announce two deaths from pellagra. This is its first appearance in the city.

According to the statistics of the Health Department, the death rate in August of this year increased over the death rate for August, 1912, to the extent of 2.5 per thousand of population and almost 20 per cent. There were 609 deaths last month, as compared with 463 in 1912. The respective death rates are 15.2 per thousand and 12.7 per thousand.

Sir Rickman Godlee, President of the Royal College of Surgeons, England, is expected to be in Toronto about the end of November, and has consented to give an address at the Academy of Medicine.

From Abroad.

William Rockefeller has increased to \$100,000,000 his Rockefeller Commission fund against uncinariasis. The Commission's field of activity will be extended to include Hindustan.

The Wisconsin Legislature has passed a bill requiring a certificate of health from both parties to a nuptial agreement as a preliminary to the granting of a marriage license. Examinations by physicians are required. Both houses also passed a bill for the sterilization of the feeble-minded, epileptic and criminal insane in State and county institutions.

Sir Almroth Wright, the English physician who added to the brilliant medical achievements of recent years the discovery of the value of anti-typhoid vaccination, has made known another discovery of great importance in connection with the treatment of smallpox. By this improvement in treatment, it is announced, the disease becomes almost as harmless as chickenpox. The treatment prevents the pus infection, which is the real cause of death.

Like all large modern cities, Edinburgh has a steadily declining birth-rate. In 1903 it was 25.49 per 1000; in 1906, 23.96; in 1909, 23.13; and in 1912 only 20.81. Simultaneously, however, the total rate of infant mortality has fallen from 140 per 1000 in 1903 to 110 per 1000 in 1912.

On all sides the belief was expressed that the Richards law will do much to place Pennsylvania in the front rank of States having social legislation, and to relieve the commonwealth of the unwholesome conditions arising from the marriage of persons with transmissible dis-

eases and of those who are delinquent and defective. The Richards marriage law prohibits the issuance of marriage licenses to persons with transmissible diseases, to imbeciles, to epileptics, to the insane, to persons under the influence of liquor or drugs and to males who are or have been within five years an inmate of any county asylum or home for the indigent.

A fine tribute was paid to Sir Patrick Manson at the International Medical Congress, when a committee representing the medical men from all the countries, presented him with a gold medallion, on one side of which is an impression of Sir Patrick, and on the other an ideal one of science triumphing over disease.

Sir Jonathan Hutchinson, M.D., LL.D., F.R.C.S., F.R.S., of The Library, Inval, Haslemere, a former President of the Royal College of Surgeons, an authority on leprosy and cancer, and Emeritus Professor of Surgery at the College of London Hospital, who died on June 23, aged 84, left estate of the gross value of £92,269, of which the net personalty has been sworn at 39,226.

At an inquest at Withington, near Wellington, Salop, last week, upon the body of John Wyke, aged 43, who died from a sting of a wasp while working in a garden, Dr. Hawthorne stated that the deceased was probably stung by a female wasp near the right thumb and forefinger. Female wasps were very venomous. Death was due to shock and paralysis of the heart due to the sting. A verdict in accordance with the medical evidence was returned.

For the week ending August 16 the death rate in New York City was 12.14 per thousand, as compared with 13.75 for the corresponding week of last year, the total number of deaths being 1,250, against 1,362. As compared with the preceding week, also, there was a decrease of 140 deaths. There was a considerable decline in the mortality of infants under one year of age.

We regret to have to announce the death, on the evening of August 19th, of Mr. Walter Whitehead, President of the British Medical Association in 1902, when the annual meeting was held at Manchester. Some years ago Mr. Whitehead had an attack of cerebral thrombosis, and has since been in failing health; his death therefore was not unexpected, but has caused great grief to a large number of friends.

The American medicine gold medal has been awarded to Dr. M. J. Rosenau, Professor of Preventive Medicine in Harvard University. Dr. Rosenau has given many years to the study of preventive medicine. Among other noted discoveries made by him, is the demonstration that the stable fly *Stomoxys* is the cause of infantile paralysis.

In the three years past upward of 400,000 hookworm patients have been taken care of by the Rockefeller Commission for the Eradication

of Hookworm Disease. In 1912 an average of 762 were treated every day, except Sunday. In October, November and December last 108,892 were treated. The medication is by thymol and Epsom salts or castor oil, and it is almost invariably effective—at a cost of 77 cents the patient. Something over one-half the rural children examined have been found infected; many of them and their patients were destitute and well nigh over the edge of pauperism.

An interesting ceremony took place at the Royal College of Surgeons of England last week. The French members of the Inter-colonial Congress of Medicine attended at the College, and, on their behalf, Dr. J. Lucas-Championnière placed a large laurel wreath, entwined with roses, on a new bust of the late Lord Lister, which has been executed for the college by Sir Thomas Brock, R.A. The president, Sir Rickman J. Godlee, who is a nephew of Lord Lister, received the French doctors, and Dr. Lucas-Championnière spoke of the life and work of the illustrious surgeon. Lord Lister's surgical instruments were also on view.

Professor A. von Wassermann has been appointed head of the new Kaiser-Wilhelm Institute for Experimental Therapeutics, one of the laboratories established by the Kaiser-Wilhelm Society of Scientific Research.

The following award of Congress prizes were announced:

The Moscow Prize, to Professor Charles Richet, of Paris, for his work on anaphylaxis.

The Paris Prize, to Professor A. von Wassermann, of Berlin, for his work on experimental therapy and on immunity.

The Hungary Prize, to Professor A. E. Wright, of London, for his work on anaphylaxis.

OBITUARY

JAMES WHITE, M.D.

Dr. James White, of Hamilton, died on 7th August, at the age of 65. He was educated in the schools of Hamilton, Upper Canada College, and Bishop's College, Lennoxville, Que., where he obtained his degrees, B.A., 1872; M.A., 1873; M.B., 1875; M.D., 1877. He also studied in London and Edinburgh. He located in Hamilton, where he continued the remainder of his life. He was a very able practitioner, and a highly esteemed citizen.

McLEAN CAVERLY, M.D.

Dr. Caverly, of Trenton, died June 8th, of pneumonia. He was a graduate of Trinity University in 1890. He practised in Belleville for some time previously to settling in Trenton.

JOHN J. MULHERON, M.D.

Dr. Mulheron was born in London, Ont., in 1846. He was educated in part in the Grammar School of Waterloo, and the Rockwood Academy. He then studied medicine in Ann Arbor, and practised in Detroit, where he died on 1st August.

BOOK REVIEWS

PHYSIOLOGY.

Handbook of Physiology. By W. D. Halliburton, M.D., LL.D., F.R.C.P., F.R.S., Professor of Physiology, King's College, London. Eleventh edition (being the twenty-fourth edition of Kirke's Physiology). With nearly six hundred illustrations in the text, many of which are colored, and three colored plates. Philadelphia: P. Blakiston's Son and Company, 1012 Walnut Street, 1913. Price, \$3.00 net.

It is some fifty years since Kirke's book on physiology made its appearance. It was the favorite text-book on physiology with the students forty years ago. The later editions have been edited by Professor Halliburton, who is a physiologist of high standing. He has kept the work up-to-date and the book is still as popular with the students of the present day as it was thirty and forty years ago. All over the world, wherever the English is spoken, medical men are to be found who speak in kindly terms of Kirke's Physiology, and not a few of them have the book still. Like Gray's Anatomy, the knowledge of this book is as wide as the English language. In the 900 pages of the book the distinguished author tells us all that is known on the subject of physiology, and he tells it in a lucid and scientific manner. Professor Halliburton is one of the outstanding figures in physiology. He has had many years' experience as a teacher, and knows what the student requires; and he has been a devoted investigator as well. It would be quite impossible to attempt a review of this book in anything like a minute manner. For the student we know of no other work so suitable, and for the general practitioner who wishes to read up this subject this is just the book. The publishers deserve much praise for the attractive form of the book and its very reasonable price.

BACTERIOLOGY.

A Compend of Bacteriology, including Animal Parasites. By Robert L. Pitfield, M.D., Pathologist to the Germantown Hospital; late Demonstrator of Bacteriology at the Medico-Chirurgical College, Philadelphia; Visiting Physician, St. Timothy's Hospital and Chestnut Hill Hospital. Second edition, with four plates and 85 other illustrations. Philadelphia: P. Blakiston's Son and Company, 1012 Walnut Street, 1913. Price, \$1.00.

The subject of bacteriology has now become a very important part of every student's study and training. He must make himself familiar with every detail of this branch of medical science. In this handy little volume is set forth the essentials of this subject in a clear and terse form. The book is scientific, though brief. It is well illustrated. It is one of the well-known quiz compend series that has become so familiar to the medical profession and the student body. This very useful volume will no doubt have a large sale, as it well deserves.

SIMON ON INFECTION AND IMMUNITY.

An Introduction to the Study of Infection and Immunity, including Serum Therapy, Vaccine Therapy, Chemotherapy and Serum Diagnosis. By Charles E. Simon, M.D., Professor of Clinical Pathology and Experimental Medicine, College of Physicians and Surgeons, Baltimore. New (2d) edition, thoroughly revised. Octavo, 325 pages, illustrated. Philadelphia and New York: Lea & Febiger, Publishers, 1913. Cloth, \$3.25, net.

The exhaustion of the entire first edition of this work in less than a year shows beyond question that it is a book of great value and utility to the practising physician. On glancing over the table of contents it is obvious that each one of the chapters is worth many times the price of the volume, because of the fund of new and important information contained and the new ideas which are set forth. The marvelous advances of modern experimental medicine have placed within the reach of the profession new methods of diagnosis, therapeutics and prophylaxis, more exact and effective than anything hitherto known to medical science, and the physician who would possess this new knowledge and master its many practical applications will find them presented in this work clearly and succinctly, and in an easy and graceful style. The most notable achievements of the past year have been embodied. These include sections on auto and normal serum therapy, on the chemithery of pneumococcus infections and of cancer, and on the serum diagnosis of pregnancy (Abderhalden's Test). The entire text has likewise been given a careful revision.

After a very careful examination of this work we can speak in the highest terms of its merits, and can very confidently recommend it to those who require such a work. No phase of medicine is occupying at the present day a more preminent place than that of infection and im-

munity. This book covers the ground in a very satisfactory manner. The publishers have done their part well.

GRAY'S ANATOMY.

Anatomy, Descriptive and Applied. By Henry Gray, F.R.S., Fellow of the Royal College of Surgeons; lecturer on Anatomy at St. George's Hospital Medical School, London. New (Amer.) edition, thoroughly revised and re-edited, with the ordinary terminology followed by the Basle Anatomical Nomenclature, by Edward Anthony Spitzka, M.D., Director of the Daniel Baugh Institute of Anatomy and Professor of General Anatomy in the Jefferson Medical College, of Philadelphia. Imperial octavo, 1,502 pages, with 1,225 large and elaborate engravings. Cloth, \$6.00 net; leather, \$7.00 net. Philadelphia and New York: Lea & Febiger, 1913.

Gray's Anatomy has for over fifty years been the best known work in all medical literature. Measured by the number of students, physicians and surgeons who use it, and by the way in which they keep it and constantly refer to it, it is incomparably the greatest text-book in medicine.

The announcement of a new edition of this great work is always a matter of exceptional interest and importance to the entire profession, and the appearance of this particular edition is especially significant because it ushers in the new era of teaching, marked by the raising and standardizing of the requirements in almost all of the medical colleges of the United States. It is generally conceded that in the near future anatomy will everywhere be taught according to the Basle Anatomical Nomenclature, and the B. N. A. terms have therefore been introduced in parentheses following the ordinary terminology, which is still in more general use, so that either or both may be used with facility.

The revision for this edition has been very thorough. Every line has been critically considered and the whole work has been brought abreast of the latest knowledge of anatomy and the most approved methods of presentation. A feature in which Gray has always been unique—the engraving of the names of the parts directly on the illustrations—is carefully preserved. The student is thus enabled at a glance to visualize the name of the part, its position, extent and relations, thus photographing in the memory knowledge otherwise painfully difficult to retain. Colors are abundantly used, and dissecting directions accompany the descriptions of the parts. A superb index comprising both terminologies in a single alphabet completes all the service which it is possible for a book to render. Its combination of unrivaled engravings and an incomparably clear text, reflecting the life-work of many of the world's masters of anatomy, and its peculiar quality of presentation which facilitates to the utmost the acquisition and retention of a sound knowledge of its subject, have maintained it in the prem-

ier position of all text-books on anatomy for over fifty years, and it was never stronger in attraction or farther in advance of its competitors than in this new edition.

It is the ideal work on anatomy for both student and practitioner, and we praise the efforts of the editor and publishers.

MISCELLANEOUS MEDICAL NEWS

SCHOOL FOR HEALTH OFFICERS, CONDUCTED BY HARVARD UNIVERSITY AND THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY.

Beginning this fall Harvard University and the Massachusetts Institute of Technology are to maintain in co-operation a School for Public Health Officers. The facilities of both institutions are to be available to students in the school and the certificate of public health (C. P. H.) is to be signed by both President Lowell and President Maclaurin.

The object of this school is to prepare young men for public health work, especially, to fit them to occupy administrative and executive positions such as health officers or members of Boards of Health, as well as secretaries, agents, and inspectors of health organizations.

It is recognized that the requirements for public health service are broad and complicated, and that the country needs leaders in every community, fitted to guide and instruct the people on all questions relating to the public health. To this end, the instruction of the new school will be on the broadest lines. It will be given by lectures, laboratory work, and other forms of instruction offered by both institutions, and also by special instructors from national, state, and local health agencies.

The requirements for admission are such that graduates of colleges, or technical and scientific schools, who have received adequate instruction in physics, chemistry, biology, and French or German, may be admitted to the school. The medical degree is not in any way a pre-requisite for admission, although the Administrative Board strongly urges men who intend to specialize in public health work to take the degree of M.D. before they become members of the School for Health Officers.

The Administrative Board which will conduct the new school is composed of Professor William T. Sedgwick, of the Massachusetts Institute of Technology; Professor Milton J. Rosenau, of Harvard; and Professor George C. Whipple, of Harvard. Professor Rosenau, of Harvard, has the title of Director, and the work of the school will be under his immediate supervision.

RETURNS OF COMMUNICABLE DISEASES.

The pressing need of some plan of making local registrars come to life in reporting communicable diseases is strikingly shown by the incomplete nature of the September health returns. The returns are gathered by the Provincial Board of Health to enable the authorities to "keep tab" on the health pulse of Ontario, but local health officers and registrars are so indifferent to them that the aggregates are of little use either for comparison or special study. The board tried an educational campaign some time ago, but the improvement that followed has not lasted. The Government, it is expected, will next session consider legislation to encourage reporting of diseases by paying the doctors.

Last month only 700 cases of communicable disease were reported, comparing with 2,005 last year.

The detailed returns show:—

	1913		1912	
	Cases.	Deaths.	Cases.	Deaths.
Smallpox	25	0	31	0
Scarlet fever	102	6	140	10
Diphtheria	86	14	193	27
Measles	82	3	64	3
Whooping cough	30	9	348	30
Typhoid	259	21	1022	94
Tuberculosis	107	71	179	119
Infantile paralysis ...	0	0	15	8
C.-Spinal meningitis ...	9	6	13	13

PRISON REFORMS.

The first step in the direction of prison reform by the Federal authority has been taken by the Borden Government in the appointment of a Penitentiaries Commission, clothed with authority to investigate the whole field of prison administration. The commission, the appointment of which was promised by the Minister of Justice, Hon. C. J. Doherty, last session, consists of George M. MacDonnell, K.C., of Kingston; Dr. Frederick Etherington, of Kingston, and J. P. Downey, of Orillia, superintendent of the Orillia Asylum, and former member for South Wellington in the Ontario Legislature. It is expected that the commission will begin its investigation at once. While, primarily, the Penitentiaries Commission is required to look into the administration of the Kingston Penitentiary, the efficiency of the penitentiary staff, etc., the order-in-Council establishing the commission gives it wider authority to investigate the penitentiary system generally, with a view to the dis-

covery of such methods of reform as may be susceptible to practical application in Canada.

PATIENTS AND HOSPITALS.

As now explained, the rule made by the Police Commissioners is that preference shall be shown the Toronto General Hospital in emergency cases only when the patient is paid for by the city.

We still see no reason for such a discrimination. The city, it is true, has contributed to the Toronto General Hospital, but it has also contributed \$100,000 to the Western Hospital, and a large sum to St. Michael's. The city is as much interested in one hospital as in another.

All the hospitals have on their staffs physicians who have practice outside. When one of these is called in an emergency, he naturally prefers the hospital with which he is connected. He treats the patient free of charge, and is precluded from making any charge. This is the rule in all hospitals. The doctor's familiarity with the case from start to finish is surely an advantage to all concerned.

If the patient has a preference for a particular hospital, there is no reason why that preference should not be respected. His liking for the place, his satisfaction with his surroundings, is part of the cure.

Apart from these preferences, the rule should be to take the patient to the nearest place. It is true that a motor ambulance may overcome the difficulty of distance. But, as all the hospitals have these motors, that does not enter into the argument. Usually the police ambulance, which is not a motor, is used in an emergency, so that no one hospital has any advantage over another, except in regard to distance.

The General Hospital is centrally situated and splendidly equipped, and it will not be long before it receives its due share of patients. As the patients are the ones to be considered first, it is rather pleasing to know that the hospitals are competing for them.—Editorial, *Daily Star*.

THE HAMILTON HOSPITAL.

There are a number of charges being made against the Hamilton Hospital. It is likely, however, that these will disappear as the truth comes out. Usually the complaints of patients are greatly exaggerated.

WOULD SAFEGUARD SALE OF NARCOTICS.

That only a small amount of the narcotics imported into Canada are sold legally by druggists was the startling statement made by Mr. W. B. Graham, of the Ontario College of Pharmacy, in a paper read before the convention of the Canadian Pharmaceutical Association.

In dealing with the question of illicit selling of narcotics Mr. Graham gave a great deal of attention to the morphine and cocaine "fiends." He stated that large quantities of drugs were being peddled to them by agents, who had secret ways of securing the drugs, and who retailed their goods to those addicted to their use at special places of meeting, and in this way avoided detection.

Mr. Graham stated that he had paid a great deal of attention to this traffic, and after a thorough investigation found that it was not being sold by druggists to these peddlers. He found that even in some wholesale houses there were quantities of narcotics not accounted for which were apparently sold to some person.

In advocating a method to stamp out this trade the speaker suggested that the administration of the narcotic trade be placed in the hands of a Dominion Government inspector who would have authority to demand the books of every merchant handling narcotics of any description. In the opinion of the speaker the Act itself was wide enough to cover every phase of the illicit trade, but that the administration of it was poor.

A suggestion was brought before the meeting by Mr. J. H. Mackenzie, of North Toronto, that the entire supply of cocaine for the Dominion be handled only by the Federal Government, and that they wholesale it among the druggists, while Chief Analyst McGill, of the Dominion Government, at Montreal, was in favor of granting the Provincial inspectors authority from the Dominion Government to watch the sale of the drugs.

PATIENTS IN THE TORONTO HOSPITALS.

On a certain date recently there were 400 patients in the General Hospital, 283 in St. Michael's Hospital, 218 in the Western Hospital, and 74 in Grace Hospital. This gives a total of 975, while the capacity of these institutions is about 1,300, leaving a margin of a little over three hundred unoccupied beds on the date referred to.

THOMAS DOVER.

PHYSICIAN AND CIRCUMNAVIGATOR.

Thomas Dover, M.B., the inventor of "Dover's powder," who in his day had a notable reputation for treating many diseases by large doses of mercury until he earned the title among less successful practitioners of the "Quicksilver doctor," has been well known since the

days of *Robinson Crusoe* as the discoverer of Alexander Selkirk. Information as to his private life and family connections has only recently been forthcoming.

He was the son of Captain John Dover (one of Prince Rupert's officers), and was born at Barton-on-the Heath, Warwickshire, in 1662. His grandfather was Robert Dover, an attorney of Barton-on-the-Heath, the son of John Dover, of Norfolk. Thomas Dover matriculated at Magdalen Hall, Oxford, in 1680, at the age of 18, and migrated to Gonville and Caius College, Cambridge, in 1686. Later he became the pupil of Sydenham, by whom he was cured of smallpox. In 1696 Dover was practising medicine in Bristol, and offered his services gratuitously on behalf of the poor under the newly-appointed guardians of that city. Here, if he did not actually become a member of the memorable Society of Merchant Venturers, he certainly was closely concerned in their undertakings, and in 1708 joined with a group of members of this society in fitting out an expedition to the South Seas, which brought him and his partners much profit, and bore back to England the voluntarily exiled Alexander Selkirk. At the end of a long and prosperous career he retired to Stanway House, in the Cotswold Hills, where, with his friend Robert Tracy, he spent the closing years of his life.

In the Roll of the Royal College of Physicians it is said that Dr. Dover ended his days in London, although Munk acknowledged that this was a pure conjecture on his part. On the other hand the county historians of Gloucestershire, Rudder and Rudge, both stated that the famous Doctor Dover, who instited the Cotswold games, died at Stanway House in Gloucestershire, and was buried at his own request in the vault belonging to the Tracy family at Stanway. Dr. Thomas Dover, however, did not found the Cotswold Games; the real founder was his grandfather, Robert Dover, from whom Dover's Hill, near Campden, takes its name.

Local tradition in Stanway at the present day has lost all trace of the Christian name of the famous Dover who was buried there, and claims that the church contains the mortal remains of the Dover who founded the Cotswold Games and gave his name to the hill. But tradition errs, so too does the *Dictionary of National Biography* on this point. Robert Dover, the attorney of Barton-on-the Heath, died and was buried there on July 24th, 1652, as the Barton register shows.

At Stanway the register proves the burial in April, 1742, of Thomas Dover, M.B. Stanway House, now the seat of Lord Elcho, was the residence in those times of that Robert Tracy to whom Dr. Dover dedicated *The Physician's Legacy*. It seems likely that the Tracy and Dover families were distantly related through a grandfather of Robert Tracy, who married Katherine, a daughter of Sir Anthony Keck, while Thomas

Dover's maternal grandmother is described as "Joan, daughter and heiress of—Keck." The blank is regrettable; it may or may not stand for "Sir Anthony." One thing only is certain, that between Robert Tracy and Thomas Dover a firm friendship existed, which explains the death of the latter in the house of the former and his burial in the family vault of the Tracys.

In the church at Stanway no trace can now be seen of the vault, nor any memorial to any member of the Tracy family or Dr. Dover. The Tracy vault is beneath the chancel floor, where in a recent restoration the altar, which had formerly been raised on steps over the vault to an inconvenient height, was lowered to its present position. The superstructure of the vault, if any previously existed, has been completely destroyed, with the result that the altar is now said to stand almost upon the coffin lids.

Here underneath the altar Thomas Dover is buried, his only memorial a brief entry in the parish register. His wife Joanna (whose maiden name remains so far unknown) had predeceased him by some years, and was buried at Barton-on-the-Heath, April 27th, 1727. They had twin daughters, baptised at Barton in 1688, both of whom died young, a third daughter, Sibilla, who married John Hunt, leaving issue from whom many descendants survive, and a fourth daughter, Elizabeth, who married John Opia, and died childless.

The account given by Thomas Dover in Woodes-Rogers's *Voyage Round the World*, which redounds but little to the credit of the "Quick-silver doctor," is not corroborated by that other less well-known book dealing with the same expedition, and entitled *A Voyage to the South Sea and Round the World*, by Captain Edward Cooke, second captain of the *Dutchess*. Cooke's work was published in 1712, whereas Woodes-Rogers' book did not appear until fourteen years later, in 1726, the latter account being something in the nature of Woodes-Rogers's defence against the disagreeable figure he is made to cut in Cooke's version.

Woodes-Rogers disliked Dover, whose interest in the enterprise was commercial rather than medical, and complains of "want of sufficient medicines with which till now I thought we abounded, having a regular physician, an apothecary, and surgeons enough, with all sorts of medicines on board." Perhaps he resented the position Dover occupied as President of the Council in this expedition. Certainly they quarrelled, until Dover exchanged from the *Duke*, commanded by Rogers, to the more congenial company on board the *Dutchess*, which was commanded by Captain Courtney, with Cooke as second captain. Cooke had been a naval officer, and was twice taken prisoner by the French. His journal

of the voyage is the work of a better-educated and more widely-informed man than Woodes-Rogers. His historical account of South America is admirable, especially when it is borne in mind that Prescott's histories were not written until a century and more afterwards. He makes clear that the enterprise on which they were engaged was no buccaneering cruise when he describes the captains of the *Duke* and *Dutchess* as the "said Commanders having commissions from his Royal Highness Prince George of Denmark, then Lord High Admiral of Great Britain, Ireland, etc."

Both ships also had legal commissions from the same Prince "to cruise on the coasts of *Peru* and *Mexico*, in the *South Seas*, against her Majesty's enemies the *French* and *Spaniards*."

The expedition set sail with four other ships, including the *Hastings* man-of-war, under Captain Paul's orders. In the case of an engagement with the enemy the following was to be the line of battle:

Duke	Capt. Rogers	30
Elizabeth.....	" Rochedale	24
Laurel	" Boshier	18
Hastings	" Paul	42
Scipio	" Edwards	20
Dutchess	" Courtney	26

The *Duke* lead with the Starboard, and the *Dutchess* with the Larboard Tack.

In the quarrel which took place when Dover claimed to be placed in command of a prize, Captain Cooke took Dover's part, and supported his claim:

At this time we had several differences and hot disputes about appointing a commander for the *Manila* ship, being a prize of considerable value. Capt. Dover, being an owner, desired he might command aboard her. Captain Rogers and several officers of the committee voted that myself or Capt. Fry should command her; but having a ship already, I voted against it, and proposed together with Capt. Courtney and several of our officers that it would be for the interest of the whole that Capt. Dover should command the said ship.

Captain Rogers protested against this decision, which proved to be that of the majority, and appears to have intended ignoring the committee and refusing to sanction Dover's appointment. This, however, the committee, who were officers of ability and determination, strenuously opposed in a long resolution in which they state:

Now, whereas Capt. Woodes-Rogers, Commander of the *Duke* and several of his officers, members of this committee, did refuse to sign to

the agreement of the said committee, (the like having never been refused by any before, when carried by the majority of voices), or to acknowledge the said Capt. Thomas Dover, Commander of the ship *Batchelor Frigate*. We do hereby in behalf of the owners of the ships *Duke* and *Dutchess*, our selves and company, protest against the unadvised proceedings and practice of the said Capt. Woodes-Rogers, and the rest of the officers of the committee, who refused to sign and agree to the same, it being contrary to the owners' orders and instructions, (Reference being had thereto) and the union and peace of the ships companies, (by them likewise recommended).

Eventually the majority of the committee appointed Dover to the command of the *Manila* prize (renamed the *Batchelor Frigates* with the following limitations:

"It is agreed by a majority of this council, that Capt. Robt. Fry, and Capt. Will Stretton, shall both act in equal post in the sole navigating, sailing, and engaging, if occasion should be, under Capt. Tho. Dover, on board the *Batchelor Frigate*; and that the said Capt. Tho. Dover, shall not molest, hinder or contradict them in their business; and we do appoint Alexander Silkirk master," and so on.

This "Silkirk" was of course, the famous Alexander Selkirk, whose lonely sojourn on the Island of Juan Fernandez inspired Defoe's *Robinson Crusoe*.

The result of the firm stand taken by the majority of the committee was that Woodes-Rogers yielded, but took his revenge on Dover when he wrote his own book and suppressed entirely the account of any proceedings of the committee which were favorable to Dover. Cooke have been an even less amiable companion than we had hitherto considered Dover.—*British Medical Journal*.

INDUSTRIAL DISEASES.

Pratt offers a long list of recommendations including the licensing of the industries in which lead or other dangerous factors appear. Employees should receive a physical examination monthly and the factories should be under the close supervision of a medical inspector so that a man having once developed lead-poisoning, could not be employed again in a lead industry, without specific permission from this inspector. Ventilation and abundance of hot and cold water should also be provided for bathing. Occupational histories of 97 men are published in the report. Wide publicity, as advocated and practiced by the *Survey*, is one of the best means of improving conditions in the fight against industrial diseases.—*Boston Med. and Surg. Journal*.

MEMORIAL TO LORD LISTER.

At a meeting held at the Examination Schools, Oxford, under the presidency of the Vice-Chancellor, it was resolved to form a representative committee from Oxford and the district to assist in raising the memorial proposed by the Royal Society to commemorate Lord Lister's services to humanity. Sir W. Watson Cheyne said that it was hoped to establish a real living monument in the form of a fund for the advancement of surgery. It was desired, in the first place, to establish some valuable prize for work done, not so much for the advancement of work in the early days of a man's life, but as a recognition of good work well completed—in fact, of the nature of the Nobel prize. Sir William Osler said that Lister's work had saved more lives directly than probably that of any individual man. The nineteenth century had witnessed four advances of the first importance—preventive medicine, initiated by Jenner, which had really been one of the great glories of British medicine; the discovery and confirmation of the germ theory of disease, initiated by Pasteur and carried on by Koch; anaesthesia, which humanity owed to America; and finally, the great system of treatment devised by Lister. This last work was remarkable for three things—its universality, its life-saving and health-giving features, and the enormous saving of pain which had been effected through it.

 INSTRUCTOR FOR MIRAJ MEDICAL SCHOOL.

A teacher of physiology, chemistry, physics, biology and bacteriology is needed to work in connection with the Presbyterian Mission Hospital Medical School and Leper Asylum at Miraj, West India. A man who has a knowledge of X-ray work is preferred.

This hospital is under the direction of Dr. W. J. Wanless. A statistical summary indicates the extent of the work:

Out-door patients—Treated, Miraj	9,812
" " Total treatments	23,771
" " Out stations	7,581
" " Total treatments	13,326
Visits to sick in their homes	117
In-door patients treated, Miraj	1,735
In-door patients treated, Vita	72
Total operations performed, Miraj and out-stations....	3,189
Medical cases treated in hospital	279
Surgical cases treated in hospital	1,466

There is a good department of nursing; a new septic ward is being constructed with accommodation for eight patients; new medical school buildings will soon be opened.

The medical graduate who is appointed to this position will have opportunities for practice as an assistant in medicine and surgery, though the major part of his time will be taken up with teaching.

Traveling expenses and living quarters are provided in addition to \$50 monthly salary. The terms: a three-year appointment with the privilege of renewal of contract with two or three additional years, if mutually agreeable.

Christian men who wish to investigate this opening should send full particulars regarding their qualifications to Mr. Wilbert B. Smith, 600 Lexington Avenue, New York City.

MEDICAL PREPARATIONS, ETC.

MORE PHYLACOGEN FIGURES.

“Case histories of 6,324 patients treated with Phylacogens have been sent to us by the attending physicians. They show 5,270 recoveries—83 per cent.”

This statement has just been issued over the signature of Parke, Davis & Co., and a very impressive pronouncement it is. If there are members of the medical profession who have been wont to question the therapeutic efficiency of the Phylacogens, that “83 per cent. of recoveries” should quickly remove their skepticism.

THE PALLID SCHOOL GIRL.

In view of the modern methods of education, which force the scholar at top speed, it is not to be wondered at that the strenuous courses of study prescribed for the adolescent girl more than frequently result in a general break-down of both health and spirits. Each winter the physician is consulted in such cases and almost always finds the patient anemic, nervous and more or less devitalized. In most instances a rest of a week or two, together with an efficient tonic, enables the patient to take up her school work again with renewed energy. Pepto-Mangan (Gude) is just the hematinic needed, as it acts promptly to increase the red cells and hemoglobin, and to tone up the organism generally. It is particularly suitable for young girls because it never induces or increases constipation.
