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## Original Articles

### **PRESIDENT'S ADDRESS—DELIVERED BEFORE THE ACADEMY OF MEDICINE, TORONTO**

#### **MEDICAL EDUCATION—MEDICAL CONGRESS**

BY HERBERT J. HAMILTON, M.D.

In the first place I wish to thank the Fellows of the Academy of Medicine for electing me to fill this important position for the present year. Whilst fully appreciating the honor they have done me I appreciate still more my own limitations, and recognise that the distinction carries with it certain responsibilities, not the least of which is that of selecting a subject for this address which will be of interest to the Academy as a whole. From this point of view I can think of nothing more appropriate than the question of medical education, which has recently given rise to a considerable amount of discussion throughout the medical world. Its efficiency is a matter of paramount and general importance, in that it tends to raise the standard of those entering the profession.

The Carnegie Committee on Medical Education has carefully investigated the condition of medical education, and has now published two exhaustive reports, one dealing with America, and the other with Great Britain and the Continent of Europe. An analysis of the results of this investigation indicates that, while the systems of medical education in vogue in the different countries vary within wide limits, one being superior to the others sometimes from one and sometimes from another point of view, no single system possesses such uniform advantages as to justify its being regarded as absolutely perfect. The publication of these reports has led to a consensus of opinion that higher standards are

desirable, more especially in America, both in preliminary attainments and in the qualifications for practice, and has already resulted in a considerable reduction in the number of medical schools in the United States, due to the closing of some which were badly conducted and imperfectly equipped.<sup>1</sup>

It is obviously only reasonable to assume that the great advances which have been made in medical science during the last few decades, together with the increased facilities for education in other subjects, indicate the desirability of a corresponding progress in regard to medical education, and of the requirement of higher standards of qualification from those entering the profession.

*Preliminary Education and Requirements.*—In the recent Carnegie report on "Medical Education in Europe" stress is laid upon the point that the education of a physician is "primarily an educational, and not a medical question," and that the methods and results of professional teaching are dependent upon the general educational system of the country itself. It is unanimously agreed that, on the whole, professional training in Germany is on a high level, and the Committee considers that the excellence of the education received in the German secondary (or collegiate) school is mainly responsible for this. There can be no question that the most satisfactory results as regards medical education are obtained only when it is based upon a good system of general education.

The requirements for admission to medical schools and colleges vary in different countries. In England a minimum preliminary standard, comprising four elementary subjects, three of them being languages, has been indirectly established. It is decidedly low. No medical school holds an examination in general subjects, but the General Medical Council and other qualifying bodies publish lists of examinations which they are willing to accept. These include the local and matriculation examinations of the Universities of Oxford and Cambridge. In France it is compulsory that the student shall have obtained the *Baccalauréate* on leaving the *Lycée* or secondary school, and in addition have devoted a year to the study of the elementary sciences of physics, chemistry and biology.

As a result of the publication of the Carnegie report and the recommendations of the various American medical societies,<sup>2</sup> the standard of admission has recently been raised in a large proportion of the medical schools in the United States, and some of the

<sup>1</sup>Colwell: Journ. Amer. Med. Assoc., 1912, lviii, 654.

<sup>2</sup>Colwell: loc cit.

State examining boards have now adopted higher preliminary requirements. These include a four-year course at a high school, and in addition a year's work in physics, chemistry and biology. As regards Toronto, it has been suggested by the President of the University that senior matriculation shall be required of students who wish to enter the Faculty of Medicine of the University of Toronto, and this recommendation has been endorsed by the Medical Faculty. I understand that passing junior matriculation in Arts still admits the candidate to the Faculty of Medicine.

*The Medical Curriculum.*—The great advances in medicine and surgery, and in the various sciences which stand in close relationship to them, have resulted in increased demands upon the time of the student, and in constant additions to the medical curriculum, which has now become so overburdened that revision is imperative. When one considers that it is absolutely essential that the student should not neglect the fundamental sciences of anatomy, physiology, pathology and bacteriology, and that in addition he is expected to acquire some knowledge of medicine, surgery, pharmacology, physics, chemistry, biology, hygiene and preventive medicine, gynecology, obstetrics, pediatrics, forensic medicine, and the various systems of treatment, it is obvious that his task is insurmountable, and we are confronted with the problem of finding some means of relieving the congestion. The most practical way of solving this problem which has been hitherto suggested is that adopted in France, and more recently in the United States, namely, that the student is required to have devoted at least a year to the study of physics, chemistry and biology before applying for admission to the medical school. In France the teaching of these subjects is undertaken by physicists and chemists in the University Faculty of Science, and not in the Faculty of Medicine by doctors acquainted with these sciences, but not specialists in them. The Carnegie Committee recommends the adoption of this plan, as the relegation of the teaching of physics, chemistry and biology to the elementary or secondary school would economise the time of the student, and thus facilitate more thorough training in the subjects included in the more strict definition of medicine.

I wish to emphasize the fact that amongst the English-speaking races the study of modern languages does not at present occupy as prominent a place as is advisable, in view of the many important contributions to medical literature which are constantly appearing in them.

*Specialization.*—Specialization, in the modern acceptance of the term, may be said to date from the latter half of the nineteenth century, and is a necessary consequence of the great progress which has recently been made in medicine and surgery, and in the various sciences which are now regarded as subsidiary or auxiliary to them. Coincident with the developments in internal medicine, surgery and pathology there has been a corresponding improvement in the methods of diagnosis and systems of treatment, which renders it increasingly difficult—not to say impossible—to keep in touch with the enormous mass of literature which is constantly being published in connection with the various subjects which are now included under the general definition of medicine. This has resulted in the dividing up of both internal medicine and surgery into a series of single specialties, the number of which is steadily increasing. In addition the modern methods of microscopical, chemical and physical diagnosis have now become extremely elaborate, require special study and technique, and already possess an extensive literature. The various methods of treatment also represent distinct specialties, which are continually being added to and subdivided.

It will thus be seen that the great advances in medical knowledge have contributed to and necessitated the development of specialization, but while it is manifestly impossible for any one man to be intimately acquainted with the details of all the various specialties, it is advisable that specialization should be based upon a general training in the principles of general medicine. Fürst<sup>3</sup> emphasizes the fact that if specialization is carried too far there is risk of forgetting the unity of medicine as a whole, and that in the consideration of individual factors alone the inter-relationship of the various organs and systems of the human body may sometimes be lost sight of.

*Laboratory Work.*—The laboratory department has for some considerable time occupied a most important position in the equipment of the modern medical school, and the investigations carried out in it have been of the greatest assistance in solving many of the problems which confront the physician and surgeon. The employment of laboratory methods of research has rendered it possible to make a practically certain diagnosis in many diseases, and in many instances they also furnish definite indications for the treatment of these diseases. It, therefore, follows that an efficiently equipped pathological laboratory is now generally recognized as an essential part of the organization of a hospital, and

<sup>3</sup>Fürst, M.: "Der Arzt," Leipzig 1909, p. 52.

that a practical course in laboratory work is regarded as one of the most valuable of the recent additions to the medical curriculum. The original researches in chemistry and bacteriology, associated with experimental work, which are now looked upon as essentials in the routine work of every hospital, have played and are playing a very prominent rôle in the great developments in preventive medicine, which is progressively becoming one of the most important branches of medical science.

*Clinical Training.*—Whilst fully recognizing the fact that the advances in methods of diagnosis and treatment render it imperative that the medical curriculum should include a certain amount of instruction in laboratory work, and that the student should at least acquire a sufficient degree of knowledge in this connection to enable him to understand the various reports and analyses which may from time to time be submitted to him in the course of his professional practice, and to interpret them intelligently in relation to the diagnosis, prognosis and treatment of the cases under consideration, at the same time I am of opinion that it is inadvisable to give undue prominence to the purely scientific side of medical training. In his presidential address at the meeting of the Canadian Medical Association at London, Ontario, Dr. McCallum<sup>1</sup> expressed the opinion that in the report of the Carnegie Committee too much stress is laid on the importance of laboratory instruction in medical education. He thinks that there is a tendency for it to assume undue prominence, and to occupy so much time that comparatively little is left for the clinical work and personal contact with patients, which is so necessary as a preparation for independent practice, and I may say that I am quite in accordance with this view.

It is unfortunate that such a sharp line of demarcation is commonly drawn between theoretical and practical work. The scientific investigation of many of the problems connected with disease can most effectively be carried out in well-equipped laboratories in close relationship to hospital clinics, but the work done in the laboratory should not be looked upon as an entity, entirely distinct and separate from the clinical work, but should rather be regarded as complementary to it. The ultimate object of both departments is or should be the same, namely, caring for the patient in the best possible manner, and the carrying out of investigations with a view to ascertaining the most effectual methods of preventing and curing disease. The instruction given in the laboratory, except in cases in which the student intends to devote

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<sup>1</sup>McCallum, H. A.: Canada Med. Assoc. Journ., July, 1913, p. 547.

himself entirely to scientific investigation, is merely part of the preparation for the clinical work to be subsequently undertaken in the wards of the hospital, the results of the scientific researches carried out in the laboratory affording indications for more efficient methods of dealing with the practical problems encountered in the latter department.

I should here like to point out that in my opinion it is highly desirable that there should be mutual co-operation between the clinician and the laboratory worker, and that the clinical methods of diagnosis should not be abandoned altogether in favor of laboratory methods. Too many lives have been sacrificed by delaying an operation until a definite diagnosis has been made by means of elaborate and prolonged laboratory investigations. In the first place all the ordinary methods of clinical diagnosis, such as palpation, percussion, etc., should be exhausted, laboratory methods being employed subsequently in order to confirm what has been discovered by clinical ones. If the results of clinical examination indicate that an operation is advisable, make your diagnosis and act upon it, and do not let your patient die from septic peritonitis or some such cause while you are waiting for a report from the laboratory.

In this connection it may be pointed out that the function of the hospital clinic consists not only in caring for the sick and in carrying out scientific investigations, but also in training future practitioners of medicine, and it cannot be too strongly emphasized that the most valuable part of this training from a practical point of view is that which can be obtained only by direct contact with the patient. In the laboratory the student learns his work by actually doing it himself, not by merely reading about it or even by seeing demonstrations, and this method of teaching is equally applicable to clinical work. I am also strongly of opinion that the work done during the period devoted to clinical study should not be limited to the study of patients as belonging to a class, but should include that of individual cases, in accordance with the rule which prevails in Great Britain. The student is required to carry out the observation of the patient from all points of view, to note the symptoms present, make the various examinations necessary for diagnosis, sift the information thus obtained in the light of the history, watch the progress and development of the individual case, formulate his own conclusions, and suggest whatever procedure his experience indicates, all being done under the supervision of an experienced physician or surgeon. The practical value of such training, even if only a comparatively small number of cases come

under the observation of the student, is immeasurably superior to that obtained from the carrying out of a large number of physical examinations or laboratory examinations, whilst the care of the patient in other respects is left to others. I think it highly desirable that in a clinical service in medicine or surgery the students should be encouraged to take individual cases and work them out upon a scientific basis. This should include the clinical observation of the case throughout, and the performance of the various investigations required, together with a study of the pathology.

It is highly desirable that every student who comes up for his final examination should be required to go through practical training in a good hospital for a certain length of time before receiving a license to practise on his own account, and the competition amongst graduates for internships shows that they fully appreciate the value of such experience. In the Carnegie report it is stated that the conditions as regards clinical training are more favorable in Great Britain than anywhere else, the system of medical education being based upon the opinion that if it is to attain a maximum degree of efficiency it is essential that the student should come freely into contact with patients, and thus become acquainted with the actual manifestations of disease. If this practical experience is not gained in the hospital under competent supervision it has to be acquired subsequently in private practice without supervision, when mistakes may have disastrous and even fatal results.

I believe that from the point of view of the student there is at the present time a considerable amount of dissatisfaction and lack of confidence in this connection, and many of them fully appreciate the fact that although they have devoted five years to the study of medicine they have not at any time during this period been in sufficiently intimate relationship with the clinical work of the hospital as to fit them for undertaking private practice. The system outlined above teaches the student to look upon the patient he is examining as *his* patient, and to feel that to a certain extent he himself is responsible for making the diagnosis, for watching the progress of the case, and for prescribing appropriate treatment. He thus gradually acquires confidence, and with it that faculty of inspiring confidence in the patient, which is so essential to success in private practice.

It has been suggested by some that the clinical teaching in our hospitals should be done by professors who devote their whole time to clinical teaching, and undertake no private practice whatever, no doubt occupying a chair in the University, and receiving

adequate remuneration. Their work is to consist of teaching, setting examinations, and determining the qualifications for practice. In my opinion such an arrangement as this would be by no means an ideal one. Whilst it is, of course, essential that the clinician should be thoroughly acquainted with theoretical medicine and hospital practice, it is at the same time highly desirable that his experience should not have brought him only into contact with hospital patients, but that he should also have had ample opportunities of coming into close contact with private patients, and of thus acquiring the qualities which make for success in that line of work. It would be as easy to drive a square peg into a round hole as to find a man who has never himself personally had to deal with patients of this class, who is capable of imparting to students the tact and intuition which are so essential in dealing with them.

*Post-Graduate Instruction.*—Post-graduate teaching, in some form or other, and to a limited extent has long been practised in Europe, more especially in Germany. Qualified practitioners of medicine, particularly those practising in remote country districts, are now realizing more and more the importance of keeping in touch with the progress of modern medical science, and efforts are everywhere being made to systematise post-graduate instruction, and render it more general.

The most efficient organization for this form of teaching exists in Germany, and is known as the Central Committee for Post-Graduate Medical Education. In addition to organizing courses of instruction at certain central points, it also arranges gratuitous local courses for those practitioners who are unable to leave their homes for any length of time. Another central organization is the Kaiserin Friedrich Haus at Berlin.<sup>5</sup> Vacation courses are also held at the universities, and in addition any qualified individual who wishes to do so can obtain permission to see the work done at the various hospitals and laboratories.

In France no special arrangements have been made for post-graduate teaching, but visitors are welcomed at the clinics and laboratories. As regards England, an association has been formed in London, which issues tickets, admitting to all clinics, clinical lectures, operations and autopsies at eight general and six special hospitals. Post-graduate courses are given at the National Hospital for the Paralysed and Epileptic, Queen Square, the Polyclinic, St. Bartholomew's Hospital, the West London Hospital, etc., and

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<sup>5</sup>Carnegie Committee: "Medical Education in Europe."



also at the Schools of Tropical Medicine at both London and Liverpool.

Arnold<sup>6</sup> has recently published a paper dealing with the post-graduate medical school at Harvard, which forms a department of the University. He is of opinion that this connection with the University is an ideal arrangement, and that it is desirable that the post-graduate school and the medical school proper should constitute one and the same educational institution, with the same equipment and the same teachers.

In regard to the standard of admission to a post-graduate school it should be borne in mind that the primary object of such an establishment is to afford an opportunity to qualified practitioners of increasing their knowledge of medicine, and that the more inadequate their previous medical education has been the more do they need such an opportunity. At the same time, whilst it is not desirable to have minimum requirements for admission, it is advisable to have such requirements for the individual courses which are held, the authorities deciding which course any particular student is qualified to take.

Arnold suggests the possibility of the post-graduate schools ultimately conferring an advanced degree, above the present M.D., but this would, of course, entail more definite rules and regulations as regards requirements. The present system of granting certificates is in some respects more or less unsatisfactory, as in many cases the possession of a certificate means nothing more than that the student has paid the fees for a certain course.

Post-graduate instruction represents an important factor in medical education, in that it renders it possible to raise the standard of the physicians and surgeons who are already in practice, and thus contributes very materially to the well-being of the community in general.

I should like to revert for a few moments to the consideration of laboratory work. In this country there is at present no regular and adequate remuneration for scientific research, and it is becoming an important question as to whether or not it should be subsidised by the State. I wish very emphatically to express the opinion that there is a very urgent necessity for the establishment and endowment of laboratories, financially supported by the Government, in which any graduate in medicine can avail himself of the opportunities thus afforded. It seems to me a very unsatisfactory state of things that funds for the furtherance of scientific research should be paid to men who undertake this important work

<sup>6</sup>Arnold, H. D.: Boston Med. and Surg. Journ., 1913, pp. 168, 265.

only as a sort of stepping-stone to private practice, and have not the slightest intention of making it their ultimate aim and object. It is highly desirable that scientific research, upon which we have to depend chiefly for further progress in medicine, should be adequately endowed and supported by the State, which should provide suitable equipment and sufficient remuneration for the teachers, so as to render it worth their while to devote their lives to the work. In return for the money thus contributed by the State, the people, through medical practitioners, could be supplied with laboratory reports, analyses, etc. The laboratory would thus become a Government department, similar to the existing public health department.

Although, as I have indicated above, I think there is much to be said in favor of a nationalized system of laboratory work, I wish most strongly to emphasize the fact that I would not for one moment suggest that the *practice of medicine* should be placed upon a similar basis, and thus made nothing more nor less than a Government department. The establishment of such a department has even been suggested, with a system of rewards and promotions, similar to that which obtains in Germany, or in the British Army and Navy. It is obvious that, human nature being what it is, such a state of things would offer the strongest inducements to commercialism, which, in any form whatever, is diametrically opposed to the ethics and best traditions of our profession.

Behold us! the members of what has always been considered to be one of the most dignified and honorable professions, parading the highways and byways of this country, our chests expanding with pride, as they groan beneath the weight of the numerous medals with which our gaudy tunics are adorned, the insignia of tinpot decorations, doubtless secured partially through merit, partially through what can only be described as the most carefully planned advertising, and partially through the wire-pulling and intrigue of wily politicians, who, chameleon-like, have acquired the invaluable faculty of adapting themselves, and of changing their color with that of the Government in power for the time being. Are we willing that the social standing of our profession should be thus degraded?

In this connection there is also something to be said from the point of view of the Canadian ratepayer, who prides himself upon paying for what he gets, and for no more. Is it likely that he would be willing to consent to legislation which would involve the raising of a large amount of money by the Government for the maintenance of insurances and benefits, and which would, there-

fore, also involve a corresponding increase in the rates, while he is deprived of some of the privileges he now enjoys? Would he be willing to place himself under such a parental Government, which would rob him of these privileges, and thus in some ways render him a mere chattel? Imagine his being allowed the privilege of selecting a veterinary to attend his domestic animals, while at the same time he is not permitted to choose the doctor who shall attend his family and himself. I have no hesitation in saying that I am absolutely certain that this country would not tolerate such a state of things for one moment.

In this short summary of the present position of medical education the time at my disposal has only allowed of a brief reference to a few of the more important points in a very wide and far-reaching subject, but I have endeavored above all to emphasize the desirability of giving every student an opportunity to devote himself, during the final period of his medical studies, to clinical work generally and the observation of patients individually, from which alone he can acquire that practical knowledge of his profession which is so essential to his success in after life.

Before concluding this part of my address I should like to say a few words upon the significance of personality. Whilst it is, of course, absolutely essential that the physician should be thoroughly equipped for the duties of his profession, both from a theoretical and practical point of view, it is at the same time highly desirable that his training should not be simply and solely a scientific one. In a monograph recently published, Bickel<sup>7</sup> gives his conception of the ideal physician. He says that medical knowledge and technical facility alone do not suffice to make a good physician, but that with these should be associated a harmonious character, knowledge and love of human nature, strength of will, loyalty, and sincerity both in regard to himself and others.

The student should be taught to look upon the patients coming under his observation as individuals, and not simply as members of a class suffering from a particular disease. He should study their individual idiosyncrasies, and cultivate that knowledge of human nature and tactful kindness which will enable them to undergo, with the least discomfort possible, under the circumstances, ordeals which must of necessity be extremely unpleasant to them. There is no profession in which greater strength of character and more strict conscientiousness are required, and the physician needs in a pre-eminent degree that elusive quality which has been described as tact. It follows that a physician should not be

<sup>7</sup>Bickel: "Wie studiert Man Medizin?" 1906.

simply a scientific man, but one with sensitive intuitions and a keen interest in humanity, and Fürst sums up the character of the ideal physician as follows:—"Only a good man can be a good physician."

An address delivered before an audience of this character would scarcely be complete without some reference to what has certainly been the most important event in the medical world during the past year, namely, the Seventeenth International Congress of Medicine in London, at which many of us were present. The large attendance of nearly eight thousand people, which included many scientists of world-wide distinction, coming from all parts of the world, is an indication of the interest taken in the Congress from an international point of view.

At a meeting of the Canadian section on the closing day of the Congress, Dr. J. T. Fotheringham moved a resolution of thanks and congratulation to the president, secretary and members of the Organizing Committee on the great success with which their efforts had been attended. This resolution was seconded by Dr. J. M. Elder, of Montreal. At the same meeting a resolution was moved by Dr. James Third, of Kingston, and seconded by Dr. Reeve, of Toronto, conveying the thanks of the Canadian section to Dr. W. H. B. Aikins. These gentlemen referred to the great services rendered by Dr. Aikins, who for the last eight years has acted as secretary of the Canadian National Committee, and during that time had been indefatigable in his exertions to secure for Canada a proper place in these international gatherings. In this connection I should like also to refer to Dr. Reeve, who was present at the last International Congress in London, held in 1881, as was also Dr. Aikins, and has ever since taken the greatest interest in the meetings of this important organization.

We all greatly appreciated the significance of the idea so gracefully expressed by Prince Arthur of Connaught, in his address of welcome to the members of the Congress, namely, that not England alone, but the British Empire as a whole, was giving this Congress, the representatives of the various overseas Dominions sharing the position of hosts to the other members of the Congress. I cannot sufficiently express my appreciation of the cordiality of our reception, and of the excellent arrangements which were made for the comfort and entertainment of ourselves and the ladies accompanying us, both in regard to the official arrangements and the social programme.

A very interesting and important function, especially from the point of view of the Canadian contingent, was the reception

given by our representative in England, Lord Strathcona, at the Botanical Gardens. It was the most largely attended function throughout the whole week of the Congress, invitations not being restricted to members of the Congress but also given to other Canadians who happened to be visiting London at the time.

It is a significant fact in the medical history of Canada that we now have a permanent Organizing Committee for the Eighteenth International Medical Congress, to be held in 1917. Of this Committee Dr. W. H. B. Aikins is chairman, and Dr. H. B. Anderson secretary.

In conclusion I should like to make a few suggestions as to the work of the Academy during the coming year. The Academy of Medicine was established with the object of promoting harmony and co-operation amongst the members of the profession in Toronto, and also to contribute to the diffusion of knowledge in regard to the work which is being done in this and other countries.

In regard to the various meetings it shall be our aim to provide programmes which will be of interest to the largest number of Fellows. The meetings of the special sections, such as pathology, pediatrics, and so on, will naturally be of the greatest use to those belonging to those sections, but I should very much like to see at least a partial return to the old order of things, in which greater interest, from a general point of view, was shown in pathology and the exhibition of clinical cases. I think it highly desirable that when cases are presented in the various sections in medicine and surgery, both the pathological and clinical reports should be included. At the same time the special pathological section of the Academy should, of course, still be maintained, and I would strongly urge the importance of having as much work done in this section as possible.

Finally, I should like to say that I assume the responsibilities of the presidency in the fullest confidence that I shall have the support and sympathy of every Fellow of the Academy and of every member of the Council, without which we cannot secure that degree of success and advancement which it is our privilege to attain.

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**Alopecia Areata** — Dr. Whitfield, according to *Medical Press and Circular*, has met with considerable success in alopecia areata by correcting errors of astigmatism.

## A FACE AFIRE

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By A. C. E.

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Early in the morning, for it lacked a few minutes of one o'clock, Claude Bernard, who had been spending the evening at the suburban home of a very estimable young lady, was hurriedly returning to his lodgings. For the past three or four months he had been paying marked attention to Miss Margery Chatterton.

His route lay through the subway, the specific condition for annexation of the suburb to the city proper a few years ago. The streets were well lighted; the subway, dimly.

Proceeding along the concrete walk against the south wall of stone, with rapid strides, unmindful of the dark shadows of the regularly placed centre abutments and the total absence of other pedestrians, he was whistling a lively tune, thus bolstering his spirits. The place was damp, lonely, depressed and depressing, not a night car in sight, nor even the rumble of an approaching train overhead.

He had just reached the corner of a driveway entering the passage at an acute angle, much used by pleasure-seekers returning from the suburban lakeside park, and situated about one-quarter of the distance through the tunnel when, like a flash of lightning from a clear sky, before his astonished vision, out into the passage way rolled a big white touring car. For an instant it hesitated, the big wheels just revolving. From the chauffeur's seat arose a thin diaphanous figure, turned toward him, raised a small white-gauntleted hand, and pointing past him in the direction from which he had come, commanded in a deep bass voice: "Go there no more!"

Then with a bound it sped on its way; and almost before the astounded and perturbed young man could recover his mental equipoise, it had disappeared out of the subway, speeding city-wards.

Claude Bernard had a dim recollection of a stone wall supporting his back; of a hazily-defined idea of retracing his steps and waiting on the brow of the suburban incline for the night car; of eventually stumbling along through the subway, furtively scanning the shadows of each stone abutment as he passed them by; of reaching the well-lighted street; and then of partially re-

gaining his equanimity as he paced rapidly to his lodgings in the boarding-house section of the west end.

Needless to say, his bed that morning was not one of roses; for all the remaining hours recalled vivid memories to his befuddled mind.

And now at ten o'clock a.m., Claude Bernard was sitting in the consulting-room of his friend and medical adviser, Dr. Geoffrey Lloyd, to whom he had just related this fantastical incident.

Dr. Lloyd knew Claude Bernard well, exceedingly well. They had been boys and chums together in a little town up-country. They had gone through the university together, had received their degree in arts at the same convocation; but while he had gone on to the study of medicine, Claude had chosen banking as his vocation, and now held an accountant's position in one of the wealthiest bank corporations in the city.

The doctor loved his friend and felt that here was a case to be handled with the utmost caution.

"Am I going crazy, Geoffrey? Or what is the matter with me? I can see you doubt my story," questioned Claude, as he jumped from his chair and began pacing the small consulting-room. "Give me something!"

"Sit down! Don't be foolish! There is nothing the matter with you—only a little unstrung in the nervous system. It will pass off in a day or so," reassuringly, and Dr. Lloyd reached for his graduate glass and measured out a sedative.

After the patient had taken the quieting draught, Dr. Lloyd resumed:

"Come now, tell me all," he said, composedly.

"What do you mean? Think there is any more to tell?" interrogated Claude.

"Of course there is; dreams are but the fulfilment of a wish," sagaciously uttered.

"I was right in reading doubt in your expression, then. Now, I tell you, Geoffrey, this actually happened. I never was wider awake at any time in my life. The car was there all right, and so was the figure, and more, I distinctly recognized *her*," and Claude's face took on a sorrowful expression and there was a quite perceptible tremor in the last words.

"Ah, Claude! I knew or felt as much," sympathetically. "Forgive me," he continued, feelingly; "but how long has Eleanor been dead now?"

"Three years. As you know she sickened and died of typhoid just a month before we were to have been married," and there was a far-off look in the respondent's eyes.

After a few moments of silence, the doctor began again:

"And this Miss Chatterton—the lovely Miss Chatterton, as she is called—when is that to be?" Geoffrey Lloyd was watching his friend narrowly.

"Eleanor does not wish it," mournfully replied the patient.

"Nonsense, man!" thundered Dr. Lloyd. "You're obsessed. I'll have to lay this ghost for you. You've been working at the bank too much. We'll investigate this white automobile episode and then you for Atlantic City or Virginia Beach. Come to, man! Let's think it out," and Geoffrey Lloyd wheeled around in his chair and brought his clenched hand down sharply on his desk, at the same time reaching with his left to a case of books on the wall above it.

Taking down a three-quarter Morocco binding, he began turning its pages hurriedly, but not readily finding what he wanted, turned back to the index; while Claude took out a cigarette case, and placing one on the desk for the doctor, struck a match, passed the light, and then helped himself.

"Here it is," exclaimed the doctor.

"Here what is?" returned Claude, petulantly. "I guess you're the one that's bewildering your balance this time."

"Psychoanalysis—interpretation of dreams—repression—the passion of grief for a departed friend—long fidelity—motives—unrepressed wishes—propensity to consult with adviser—anxiety—" and a whole host of incoherent words and phrases mumbled the doctor for several minutes, almost unconscious that any such person as Claude Bernard was in existence, let alone sitting there quietly smoking a cigarette in that very consulting-room.

Suddenly Dr. Lloyd turned, having closed the book with a slap:

"Here, Claude, take this pad and pencil and write out all your thoughts on this matter—I have to go out for an hour. Write them down, whatever they are and wherever they lead you. Keep strictly close to the line."

In a little over the hour the doctor returned.

"Ah, Claude! I see you have been busy," he said, as he surveyed the pile of manuscript lying face downwards on his desk—"and still going strong."

"Well," he continued, "that will do now. Let's search for a



clue," as he turned the sheets over and began reading them rapidly.

Claude Bernard waited and watched with feelings bordering on curiosity and contempt. He had entered into the spirit of thought-writing, which had calmed and soothed his excited psyche, for he could now sit up and think.

"Margery!" cried out Dr. Lloyd. "I have it!" as he read the notes and found "Margery Chatterton" running into and getting mixed up with "Margery Hamilton," Eleanor's sister. But he did not wait for Claude to reply. "Margery Hamilton is the spectre you saw last night and mistook for Eleanor. Depend upon it, Claude, my boy, Margery Hamilton is in love with you, herself, and has heard about your attentions to Margery Chatterton; and if I remember her rightly she is harum-scarum enough to pass a joke like this over on you—and pretty, she was as pretty as Eleanor, and very much like her."

Claude Bernard gaped. In an instant he recovered himself.

"It's preposterous, Doc—Geoffrey. She's three or four hundred miles from here, and she couldn't run an automobile anyway—and at that time of night or morning. It's absurd," gazing intently into the oval, smooth, light-complexioned face of the young medical man.

"Yes, she is here—right in this city now. I saw her when I was out," responded Dr. Lloyd as emotionally.

Claude Bernard blew a long, low, calculating whistle.

He had corresponded with Margery Hamilton at his old home town for a year after Eleanor's death, but had not seen or heard of her for at least a year and a half.

"When do you call again upon Miss Chatterton, Claude, may I ask?" eagerly questioned his friend.

"I go thrice a week—Tuesday, Friday and Sunday evenings. We're engaged."

"Congratulations—warmest congratulations, old man. And you *will* go on Friday—this is Wednesday."

"Assuredly, now. I think I can see through this muddle. I must have been watched. Anyone could easily slip around through the park and run into the subway by the time I reached it."

"Shall we give them a scare—there must be two—one secreted in the body of the car?" asked Dr. Lloyd. "See," he went on, reaching up to the window blind and drawing it and the inside green one, rendering the room completely dark, "that would scare most any one in the semi-darkness of the subway."

"Heavens, Geoffrey! How do you do that?" gasped the astonished Claude.

"Never mind. Friday night I'll scout around Miss Chatterton's neighborhood in my runabout, about the time you're leaving. It's altogether likely they know your habit; and then if I spot any suspicious looking car I'll go and wait at the brow of the incline. By the way do you remember ever having seen a car like this one before?" and Dr. Lloyd sprang the blinds and replaced the apparatus he held in his hand in his cabinet.

"I have," replied Claude, "and I have been trying to locate it, but can't seem to recall it altogether," reflectively.

One o'clock, Friday night.

"You're a little late, Claude," whispered Dr. Lloyd, as the lover passed the runabout alongside the curb near the entrance to the subway. "They must be nearly there. I saw them take down a side street towards the park as I motored past just as you were leaving the house. Step a little livelier," and the doctor who had extinguished his lights, waited a couple of minutes, then cranked up, jumped in, took a firm grip and started for the subway at top speed. He was just in time.

As he entered the subway he saw the white car appear from the driveway. The weird form had arisen. The hand had been pointed. The deep bass voice had spoken—"Go there no more!"—when a terrible scream rent the air. The white figure swayed and fell in a heap. Claude sprang for the car. The man with the bass voice, which Claude had overlooked before, scrambled from the body of the car, over the back of the front seat, into the chauffeur's place, pressed for high speed; got it; spurted.

Claude missed, but caught a rapid glimpse of Dr. Lloyd as he flew past in hot pursuit.

It was the face of a red devil driving the runabout at mile-a-minute speed. Fire darted from Dr. Lloyd's pupils. Bright red, semi-circular taches blazed under each eye. Red light poured from each nostril. The mouth was a scarlet slit. On each side of the nose, a flash of light. The entire lower face was red with fire; the face, runabout, and all racing like Fury possessed.

Dr. Lloyd drew out alongside the big white touring car as they cleared the subway, prepared to give stern chase, but the unexpected happened.

The white car came to a standstill just beyond the brow of that incline.

Whether the driver had stopped on purpose or something had gone wrong with the car, Dr. Lloyd didn't trouble to ascertain.

"I'm afraid you've scared my sister to death with that awful face of yours, however you did it!" snapped the man from the car, as Dr. Lloyd, carried past with his speed, returned to the touring car.

"Well, you were trying to scare my friend, but it is not that bad I hope," as he sprang from his seat to give the young lady attention.

In a few minutes Claude came running up:

"Mr. Houghton," he demanded, as he recognized a young man whom he had frequently met at Miss Chatterton's, "what is the meaning of this?"

"It means I simply tried to scare you from Margery Chatterton and failed, that's all," sulkily.

"And the young lady in league with you?" he persisted eagerly.

"Is my sister."

By this time the sister was brought to rights by a restorative administered by Dr. Lloyd, when the couple motored away from the chuckling friends.

"What a devilish face that is of yours, Geoffrey, when trans-illuminated!" laughed Claude as they took it easily homewards. "Somewhat better than your psychoanalysis and identification of Margery the other day! Eh! What?"

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## THE MEDICAL TREATMENT OF DUODENAL ULCER

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BY CHARLES G. STOCKTON, M.D., BUFFALO.

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Whether the peptic ulcer is located in the stomach or duodenum, Stockton, (*New York State Journal of Medicine*), says the medical treatment consists in absolute physiologic rest to the part involved. The principle is the same whether medical or surgical. The diseased area must be spared from incessant irritation by the acid, enzyme-bearing chyme, the motor disturbance and tonic contraction and pyloric spasm. There is an exception, however, in the instance of the resection of the ulcer-bearing area in the pyloric region of the stomach. The treatment is directed to controlling the patient and so managing his digestive tract to allow the ulcer to heal spontaneously. The patient should remain continuously in bed several weeks, as the upright position

permitting of bending or making movements throws undue tension upon the walls, and the ulcer thereby strained. He should be so managed that all involuntary motion of pylorus and duodenum is minimized, and to lessen the amount of gastric secretion, decrease acidity and enzyme activity of the gastric juice before it passes the pylorus.

The patient must be made comfortable in bed, as well as contented: soft and elastic mattress, sheets clean, freshened, light clothing. The room well ventilated, and the light not allowed to strike directly in the patient's face. A sponge bath or alcohol rub with massage should be given daily, avoiding manipulation of the abdomen. Mental calm is important, where possible treatment is better followed out in the hospital.

The second essential is physiologic rest to the duodenum. For this there must be a controlled or decreased gastric secretion. Therefore nourishment must not be taken in the usual manner. Exclude, if possible, spasm or excessive tonus and peristalsis. The patient should be confined to an unstimulating fluid or pultaceous diet. Milk, milk porridge, rice, gruel, sugar, raw egg yolks, uncooked butter, cream and oil, until 2,000 to 2,500 calories are taken daily. Clean the colon with bowel washes, assisted by magnesia. Irritation and an over tonic state of the pylorus should be relieved by large doses of bismuth. At times it is best to require a fast of twenty-four hours. Relief may follow the taking of purified vaseline or olive oil every two or four hours. For persistent tonicity at pylorus, a hypodermic injection of atropine in full doses, followed by fasting for a day or two and rectal alimentation. Adrenaline subcutaneously for spasm is sometimes most favorable—1 c.c. of 1-1,000 solution. Hot poultices and hot fomentations meet with partial success in a great majority of cases. In some the symptoms are relieved with ice and tends to decrease hemorrhage. To control gastric secretion and decrease gastric hyperacidity, the most successful antacid is light calcined magnesia, bismuth sub-carbonate and lime water. Vaseline and olive oil afford relief in cases of over-acidity. Animal broths and extracts should be excluded from the diet. Another method of relieving gastric secretion and to overcome pyloric spasm is the duodenal alimentation of Einhorn. This is a new and important means for the treatment of both gastric and duodenal ulcer. To relieve hemorrhage there should be complete bodily and mental rest, fasting two or three days, normal saline per rectum, probably with some calcium lactate in the water. But the most efficient is the sub-cutaneous injection of serum as devised by Clowes and Busch, now on the market as "Coagulose."

## THERAPEUTIC NOTES

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**Puerperal Fever.** — Ilkervitsch (*Zentral für Gyn.*) used intravenous injection of one per thousand of silver nitrate solution as introduced by Hume, of Baltimore, in a number of cases with extremely satisfactory results in eighty-three out of one hundred and thirty-eight cases of puerperal fever. Later experience has convinced him that distilled water alone answers equally well. In the last eighteen months Ilkervitsch has applied this measure in 142 cases and 42 patients out of 62 with pyemia and septicemia were cured. In the severest cases of septicemia improvement followed the infusion of distilled water. The report issues from the Moscow maternity.

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**Hemoptysis.** — Müller (*Beiträge zur Klinik der Tuberc.*) commends the treatment of hemoptysis with intravenous saline infusion. The blood becomes more fluid and as a consequence coagulates more readily. He reviews his experience in fifty cases during the last eighteen months and considers it more reliable than any other measure to date. The injections, which are entirely harmless and cause no trouble, consist of 5 c.c. of a 10 or 15 per cent. solution of salt. The injections should be given during the hemorrhage and after its arrest, a second, or a third during the day to ward off recurrence.

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**Boils.** — L. E. Chapman (*J.A.M.A.*) says eight ounces of the following mixture will promptly cure boils in every case: Liq. potassii arsenitis, m. iii; Liq. ferri peptonati cum mangano, ʒi. This is one dose; take after meals. He has used this for seven years.

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**Tabes.** — Joseph Collins (*Med. Rec.*) says if neosalvarsan is used instead of salvarsan the interval between the administration should be less. It is given one dose every third day for four doses, and then an interval of from six to eight weeks, for men the dose being 0.9 gm. for women, 0.45 gm. In many cases

during this time it is advisable to give mercury, possibly in large doses or cacodylate of soda. The chemical and microscopical findings in the cerebrospinal fluid determine whether we shall or shall not give mercury after the neosalvarsan.

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**Colles' Fractures.** — A. O. Wilensky (*N.Y.M.J.*) immobilizes with a plaster of paris bandage, as it can be accurately applied, taking advantage of all the natural eminences and depressions. It can readily be converted into splints that fit the part by cutting through at the sides. On the day after it is applied, and every day thereafter, the wrist joint is carefully moved, the forearm muscles methodically massaged, and fingers moved. On the fifth day the cast is discarded, and a simple starch bandage is substituted for two days more, when all splint apparatus is discarded. At the end of ten days the muscles are almost as strong as in the sound limb. At the end of two weeks patients are back at their work. Patients never have any resultant stiffness. These conclusions are based on cases observed and treated in Mount Sinai Hospital, New York City.

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**Femoral Hernia.** — G. S. Thompson (*The Lancet*) thus describes a new operation for femoral hernia: A nearly transverse incision is made over the saphenous opening, the canal defined, and the sac ligated. The connective tissues in the space are gathered outwards so as to form against the vein a cushion next to which the flange of a celluloid filigree, shaped so as to fill the triangular femoral hernia space, will rest, the flange being separated from the vein externally by the cushion of connective tissue. Three temporary catgut fixation stitches are inserted through the perforations at convenient spots, thereby fixing the filigree to Poupart's ligament above, Gimbernat's ligament internally and Cooper's ligament and the bone below. This completely obstructs the femoral canal and soon fibrous tissue grows through the perforations and the plate becomes covered and embedded in the same, firmly fixing the plate in situ. By this means the canal is permanently, thoroughly and satisfactorily closed without causing pressure on the parts. There is an impassable barrier constituted and the vessels cannot be interfered with or damaged.

## Reviews

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*The Doctor in Court.* By EDWIN VALENTINE MITCHELL, LL.B., of the Massachusetts Bar. New York: Rebman Company.

The physician who is called into court either as an ordinary witness or as an expert will not fail to appreciate a compact production which sets forth certain duties, legal obligations and general principles of law relating to the medical profession. The book contains much which will ably assist a physician in the witness box.

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*Pocket Cyclopedia of Medicine and Surgery.* Gould and Pyle. Second edition. Revised, enlarged and edited by R. J. E. SCOTT, M.A., B.C.L., M.D., New York. Philadelphia: P. Blakiston's Son and Co.

It is remarkable the amount of valuable information contained in this little volume. The book is increased by 155 pages. The matter is well selected. There are many pocket books on the medical market, but none so amply filled as this one.

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*Keen's Surgery, Volume VI.* The Volume with the newest Surgery. By eighty-one eminent surgeons. Edited by W. W. KEEN, M.D., LL.D., Hon. F.R.C.S. (Eng. and Edin.), Emeritus Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia. Octavo of 1,177 pages, with 519 illustrations, 22 in colors. Philadelphia and London: W. B. Saunders Company, 1913. Canadian Agents: The J. F. Hartz Co., Ltd., Toronto. Entire work, consisting of six volumes, per volume: Cloth, \$7.00 net; Half Morocco, \$8.00 net.

This volume contains about seventy chapters, beginning with one on Inflammation, by Prof. Adami, running the gamut of at least the more important subjects in surgery, and concludes with a chapter by Ochsner, on "The Surgical Organization of a Hospital." A glance at the list of authors is a sufficient guarantee of the excellence of the work. To single out one, or a dozen articles would seem to be making invidious distinctions. The letter press and illustrations are most excellent, *i.e.*, up to Saunders' usual standard.

*A Clinical Manual of Mental Diseases.* By FRANCIS X. DERECUM, M.D., Ph.D., Professor of Nervous and Mental Diseases, Jefferson Medical College, Philadelphia. Octavo of 425 pages. Philadelphia and London: W. B. Saunders Company, 1913. Canadian Agents: The J. F. Hartz Co., Ltd., Toronto. Cloth, \$3.00 net.

This book is based on the course of lectures delivered annually by Dr. Derecum to medical students at Jefferson Medical College. The subject is presented from the clinical point of view and will appeal to medical students and general practitioners alike. Particular stress is laid upon the clinical pictures, prognosis and treatment.

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*A Code System for the Hospital Pathological Laboratory. Part I. Autopsy Work.* Being a students' guide to the description of autopsy organs. By O. C. GRUNER, M.D. (Lond.), Pathologist to the Royal Victoria Hospital, Montreal. Price, 65c. Montreal: Miss Poole's Bookroom, McGill College Avenue.

This code has been in use in the Royal Victoria Hospital for about two years. The second part of the system was published in 1912. It is a student's guide to the description and investigation of organs at autopsy and is so arranged that the instructor's remarks may be added in the margins.

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*Obstetrics for Nurses.* By JOSEPH B. DELEE, M.D., Professor of Obstetrics in the Northwestern University Medical School, Chicago. New (4th) Edition. 12 mo. of 508 pages, fully illustrated. Philadelphia and London: W. B. Saunders Company, 1913. Canadian Agents: The J. F. Hartz Co., Ltd., Toronto. Cloth, \$2.50 net.

It is essential that the obstetric nurse should be well-trained as it not infrequently happens she is called upon to do more at the bedside than mere routine. This book succinctly conveys the theoretical education. This edition is brought up-to-date and some new illustrations added. There is much in its pages which will well repay medical students to read, mark and inwardly digest.



# Dominion Medical Monthly

And Ontario Medical Journal

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## COMMENT FROM MONTH TO MONTH

The teaching of sex hygiene to school children is not to be exalted into a special entity as a course of teaching or study, but if it be essential, it should form just a part of a regular course on personal hygiene and have no more emphasis laid upon it than the systematic washing of feet, cleaning of teeth, bathing, etc. The mind of the child should not be brought to dwell upon the sexual organs and functions to the exclusion of other organs and their functions.

That physiology in any shape or form should be taught to children or even to adults is to be deprecated. Personal hygiene is altogether another matter.

In the way of studies and instruction the school child has now more than it can properly assimilate. There is not enough time given to reflection and digestion. It is even so with the adult. Books are generally read more for pleasure than for profit. Reflection upon what has been read is a negligible factor. There is scarcely any analysis of the subject-matter.

Personal hygiene in the child is something which should be attended to in the home. If it is anybody's duty to teach sexual matters it is the parents who should gradually inculcate this knowledge.

There is so much now written upon sexual hygiene that the time has arrived for medical societies to make authoritative pronouncements upon the subject.

With an intimate connection with medical societies for upwards of twenty years, the writer recalls the paucity of papers, reports of cases and discussions upon sexual matters; and even in the teaching of anatomy and physiology to medical students not much particular stress has ever been laid upon purely sexual subjects.

Is this to mean that the medical profession as a body consider that an animal instinct will take care of itself? Is there a danger of man becoming to know too much about himself? For certainly it is dangerous to the young and growing mind to have that mind regularly and systematically fastened upon all matters sexual.

There are many human moth balls in this world whose mission, in their own minds, is to disinfect the balance of mankind. Voluntary societies of all sorts and conditions spring up like mushrooms all over the land; and it may become necessary in future generations to regulate and restrict the formation of societies by governmental action and supervision.

Haphazard methods of attempting to correct social evils and sporadic flights into Utopian realms smack all too much of the visionary.

What every country needs is a Department of Health, so that all matters appertaining to the health welfare of the people may be systematically prosecuted and effectively conducted.

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### THE CANADIAN MEDICAL ASSOCIATION MEETING

It will be of interest to the profession, generally, to know that the next meeting of the Association is to be held in St. John, N.B.

It will extend over four days, the 7th, 8th, 9th and 10th of July next. St. John has excellent hotel accommodation and ideal weather in the summer time. The thermometer is rarely above 70°, and the nights are refreshingly cool and invigorating. Preparations for the meeting are already well under consideration. The profession of the city is working as a unit to make it one of the most successful ever held by this association.

Medical men throughout Canada and elsewhere contemplating a holiday in which pleasure and profit may be combined cannot do better than arrange to go to St. John next July.

## Editorial Notes

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### AIR POLLUTION

More attention should be given to preventing air pollution by smoke, dust, and other impurities. Health authorities have been lavish in preventing pollution of drinking waters and foods, though these are moderately consumed compared with the air breathed.

Heretofore the whole science of ventilation has been based upon a fallacy. It is now very well known that carbon dioxide gas is only harmful when present in proportion approaching that in expired air.

All air-borne diseases are now recognized as transmitted by solid particles in suspension in the air, not by the means of a poisonous gas. It is evidently useless, therefore, to measure the proportion of  $\text{CO}_2$  in the air in a building to determine the fitness of the air for breathing. It is upon the absence of dust, the real source of danger, the statements should be based as to the real purity of the air.

There is another point to be considered. When, for example, a person breathes in air laden with germs, such as those of consumption, whether he contracts the disease depends upon two factors: (a) the dose, and perhaps the virulence of the disease-carrying microbe which he receives; and (b) his own resisting power to infection.

While there are now several systems of ventilation which attempt to filter air entering a building, there is nothing to measure the purifying effects of such methods. If the screens or filters collect a good deposit of dirt, that may be satisfactory. But there are no ordinary means of distinguishing between harmless dust and dust carrying disease germs, outside of bacteriology.

Since 1911 efforts have been made in England to standardize methods of measuring atmospheric pollution by suspended matter. The objects in view were: (a) to measure quantitatively the amount of matter deposited from the air at any place during a fixed period; (b) to measure the amount of matter held in suspension in the air at any time and place; and (c) to find the nature and composition of deposited and suspended matter.

The various methods are the filtration method, the method adopted as the standard, Aitken's dust counter, the method of Professor Cohen, of Leeds, the glass plate method, filter paper.

optical, one similar to Dr. Fritsch's for measuring smoke, and the Peter Fyfe method.

The standard form of apparatus decided on is a circular gauge vessel of enamelled cast-iron, the enamel being an insoluble porcelain. The vessel rests in a circular ring supported on four legs, with a shelf for holding bottles to collect water and deposits. A cage of wire surrounds the top to prevent birds from settling on the edge of the gauge.

The monthly deposits at four different stations, three being in London, and one twelve miles out, were compared and showed, deposits for the year, in tons per square mile of 500, 420 and 650, in the urban stations, and 195 in the rural. The prevention of air pollution is, therefore, a vital question.

### DOMINION MEDICAL COUNCIL EXAMINATIONS

The results of the first examination under the new Canadian Medical Act are announced by Dr. R. W. Powell, registrar. Seventy-one candidates presented themselves at the examination. Forty-four were successful, eight were referred back to the council, having failed in not more than two subjects, and nineteen were rejected. Following is a list of the successful candidates: L. A. Aubin, Rawdon, Que.; I. F. Belanger, Quebec, Que.; I. A. Bergeron, St. Antoine de Tilly, Que.; C. R. Bourne, Montreal; C. E. Brown, London, Ont.; I. Cumming, Ottawa, Ont.; A. P. Davies, Hull, Que.; A. S. Duncan, London, Ont.; J. B. Gallagher, Bath, N.B.; J. F. Grant, Montreal; E. H. Gray, Montreal; W. J. Hepburn, Montreal; L. G. Houle, Bras d'Apic, Que.; W. G. Hutton, J. J. Irvén, J. A. H. Joyal, R. F. Kelso, Montreal; J. H. G. Lacasse, St. Genevieve de Pierrefonds, Que.; J. L. Lamy, St. Flore, Que.; A. Leger, Montreal; A. F. Macaulay, London, Ont.; F. H. Mackay, Montreal; I. F. MacKnight, Tamworth, Ont.; L. W. MacNutt, Ottawa, Ont.; A. A. Martin, Pierce, Neb.; A. J. McCalla, St. Catharines, Ont.; W. G. Morris, Vancouver, B.C.; R. L. Morrison, Barrie, Ont.; P. Nase, Verdun, Que.; J. G. Phillips, Labelle, Que.; W. S. Pickup, Fort William, Ont.; J. L. Poirien, Craigmont, Ont.; L. K. Poyntz, Tavistock, Ont.; A. L. Raymond, Williamstown, Ont.; A. Stewart, Ottawa, Ont.; J. W. Sutherland, F. S. Swaine, Montreal; A. T. Turner, Bowden, Alta.; E. J. O. Wolcott, Montreal; L. W. Walkey, Hanover, Ont.; J. T. Wall, Kansas City, Mo.; W. G. Wallace, Metcalfe, Ont.; H. C. Workman, Kingston, Ont.

**ARMY DOCTORS AND TYPHOID**

(Int. Med Congress.)

An important discussion on anti-typhoid inoculation occupied the attention of the Naval and Military Section of the Congress at the Royal Military College, Millbank, and some important contributions to the subject were made, particularly in regard to the inoculation against typhoid of British soldiers in India. Surgeon-General Sir Launelotte Gubbins presided.

Colonel Sir William Leishman (Royal Army Medical Corps), Professor of Pathology, Royal Army Medical College, said that since he had the honor, in 1907, of acting as reporter on this subject at the International Congress of Hygiene at Berlin, anti-typhoid inoculation had come to occupy a very important place in military medicine. At that time it was very far from being generally accepted as a practical measure, although its protective value was recognized by most bacteriologists. Now he thought it might be said to be generally regarded as one of the most powerful weapons in the fight against typhoid fever.

In the Army they had now accumulated a very considerable body of experience in the practical use of the vaccine. They were the first to adopt the method as a preventive measure on a large scale, and, although its general acceptance had been a slow process, and it still remained on a purely voluntary basis, it was now widely taken advantage of by the soldiers, and had few, if any, strong opponents in either the combatant or the medical branches of the Army. The Army Council had given every support to their endeavors to secure as many volunteers as possible.

On the whole, he regarded the average duration of the protection conferred by their system as two years, and he thought that after this time had elapsed the individual, if still exposed to the danger of infection, should be reinoculated.

With the Army in India in 1890 there were 1,253 cases of typhoid and 332 deaths. Anti-typhoid inoculation was reintroduced in India as a voluntary measure in 1905; but it was not until the year 1909 that the number of men inoculated became sufficiently large to influence the general statistics. From that year there had been a steady and very remarkable decline, the figures for each successive year constituting a fresh low record until in 1912 they found that there had been only 118 cases of typhoid fever in the whole of

the British Army in India—a gratifying contrast to the large figures recorded in the past.

Those of them who had been responsible for inoculation had always owned in the fullest manner that vaccine had not been the sole factor in this remarkable change. Improvements in general sanitation, improved methods of diagnosis, the detection and isolation of “carriers,” had undoubtedly all played a part; but his strong personal conviction, shared, he was glad to know, by many of his brother officers, was that the reduction was in the main due to the extended employment of anti-typhoid vaccine.

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### THE PRESENT STATUS OF ABDERHALDEN'S SERO-DIAGNOSIS

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In 1912 Abderhalden described a method for the sero-diagnosis of pregnancy which has been discussed in these columns. Having found that if foreign protein is injected into the blood or introduced parenterally, ferments for the destruction of this substance are produced, he next showed that in the blood of a pregnant animal there circulates a proteolytic ferment which causes a breaking down or cleavage of placental proteins and furthermore that there is in the blood of pregnant women proteolytic ferment or ferments for human placental tissue.

Two methods are used to show the presence of these ferments, the method of dialyzation and the optic method. The first method is carried out as follows: A membrane is used which allows peptone to pass but retains unsplit protein. On one side of the membrane is placed 1 gm. of human placental tissue, which has been carefully washed and boiled in five times its volume of water repeatedly until the water no longer gives the biuret or ninhydrin reaction, thus showing that no peptone is present, and to this are added from 1.5 to 3 c.c. of the serum to be tested. The serum is obtained under strict aseptic precautions and should be secured absolutely pure without any trace of products of hemolysis. The membrane is then placed in a small vessel containing from 15 to 20 c.c. of distilled water, and this is incubated for from sixteen to twenty-four hours. The outer fluid is then tested for the presence of peptone. If any is present, it means that the placental protein has been split and we have a positive result. Abderhalden recommends the ninhydrin

test as more exact and as permitting finer differentiation in colors than the biuret test.

When the optic method is used a mixture of 1 c.c. of a 10 per cent. solution of placental tissue in physiologic salt solution and of 2 c.c. of serum is placed in a small polarization tube and the initial rotation is read in the polariscope. Then the tube is placed in an incubator and the rotation determined at various intervals up to thirty-six hours. The maximum change with non-pregnant serum never exceeds 0.03 degree, while pregnant serum gives a change in rotation from 0.05 to 0.2 degree.

The observation by Abderhalden that the serum of pregnant women splits up human placental protein has been confirmed by numerous observers in what appears to be more than two thousand cases.

Most of the authors cited have obtained positive results in practically all cases of pregnancy. On the other hand, less favorable results are reported by Engelhorn, Behne, and by Williams and Pearce, who assert that they have also obtained positive results in other conditions than pregnancy. They conclude therefore that "the test cannot be accepted as an accurate clinical method until it has been more thoroughly investigated and the possible sources of error corrected." It is interesting to note that Schlimpert and Hendry, who tested in all 316 cases, found at least eight or ten different errors in their earlier work which interfered with accuracy. They, as well as many others, including Abderhalden himself, emphasize the great importance of an exact technic. After numerous trials Schlimpert and Hendry obtained positive results in all of their last seventy-nine cases of pregnancy.

Lindig and later King have prepared dried extracts of placenta in sealed tubes which they believe are an improvement on Abderhalden's method of preparing and keeping the placental tissue; but Abderhalden holds that Lindig's preparations of dried placenta are untrustworthy and that all his powders after a few months will give a positive ninhydrin test.

We must conclude then that so far as pregnancy is concerned we have here a method of diagnosis of practical value and wide applicability. The results at hand show that the ferment is present in the blood from the sixth week after the last menstruation until the end of the third week post partum. Experiments on animals have shown that the reaction may be obtained within twenty-four hours after implantation of an ovum. The ferment is present also in case of extra-uterine pregnancy.

This method of diagnosis has an even wider application. Besides hypersecretion and hyposcretion of ductless and other glands we may conceive also of a secretion of unfinished or morbid substances from the glands, which may act as foreign materials against which ferments are produced which split them up. In dementia precox Fauser says that there is a ferment which breaks up substances from the genital gland. The genital glands of old men and women as well as those of patients with dementia precox serve as test objects, but there is no reaction with ovarian tissue and serum from male patients or with testicular tissue and serum from female patients. In a few instances thyroid tissue is split up. More recently Wegener has reported the results of a study of two hundred cases of different nervous diseases. In dementia precox in women he found that the serum would split up ovarian and tube tissue but not testicular tissue. The reverse was true for men. In some instances lymph-node substance was also affected. In maniacal depressive insanity proteolytic ferments could not be demonstrated in the serum, thus indicating that the test may serve as an aid in differential diagnosis. In epilepsy Wegener found that the serum would cause a cleavage of brain substance only in those cases in which dementia was present. In all syphilitic and parasymphilitic disorders he found that the serum caused cleavage of brain substance but not that of other organs. In a case of neuritis he found that the blood-serum reacted with muscle substance but not with other organs.

Lampe and Papozolu tested the serum of thirty normal persons with various organs and obtained no evidences of splitting of proteins.

Frank and Rosenthal attempted to determine what relationship, if any, existed between these ferments and immune bodies. They found that the latter are present when the former are absent, and hence no relationship could be traced.

Munzer suggests that the cerebrospinal fluid should be examined for foreign elements, as brain substance in dementia precox and general paralysis.

The possibilities indicated seem large. Almost daily new observations are recorded and there is good reason to believe that real additions to our knowledge of many diseases will result from the use of Abderhalden's method.—*J. A. M. A.*



## News Items

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Dr. Goldwin W. Howland, Toronto, will hereafter specialize in nervous diseases.

Dr. J. N. Roy, Montreal, has left for an extended trip to Brazil, Chili, Peru and Argentine.

Dr. Frederick W. Marlow, F.R.C.S., has been appointed Associate Professor in Gynecology in the Medical Faculty of Toronto University.

Ontario cities in the past fiscal year show 22,929 marriages and 15,917 births, while rural municipalities show 10,910 marriages and 32,028 births.

In 1911 Canada had 3,238 blind, 4,584 deaf and dumb, 14,702 insane, 5,387 idiotic, making a total of 27,911 defectives. New Brunswick is the only province which does not exhibit an increase.

One child out of every ten born in Ontario dies before reaching the age of five years. The total number of deaths under five years last year was 8,230, of which 6,494 were within one year of birth.

Calgary Medical Society officers for the year are: President, Dr. T. J. Costello; Vice-President, Dr. G. R. Johnson; Secretary, Dr. Roach; Executive Committee, Drs. Madden, McEachren and H. Johnson.

Alberta Medical Association elected these officers: President, Dr. G. A. Kennedy (since deceased); First Vice-President, Dr. E. C. Smith; Second Vice-President, Dr. G. Parsons; Third Vice-President, Dr. Stevenson; Fourth Vice-President, Dr. Archer; Secretary-Treasurer, Dr. A. McNally, Lethbridge.

Dr. Colwell, of the American Medical Association, inspected the Medical Department of the Western University, London, Ontario, on the 28th of October, in connection with the Carnegie Endowment. It is understood he was very favorably impressed with the improvements, as well as with those also at Victoria and St. Joseph's Hospital. He also inspected the Public Health Institute.

Sir Rickman Godlee, Baronet, President of the Royal College of Surgeons, England, had the degree of doctor of laws conferred on him at a special convocation of the University of Toronto on the 5th of November. The distinguished recipient was introduced by Professor I. H. Cameron. Sir Rickman gave an address to the Academy of Medicine the evening of the 4th on foreign bodies in the air passages, was tendered several private luncheons and dinners while in Toronto, and was a guest, the evening of the 5th, of the Æsculapian Club, at which the Hon. W. J. Hanna, Provincial Secretary, delivered a humorous, interesting and forcible address on the work Ontario was prosecuting in connection with Prison Reform.

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*The Stomach and Oesophagus.* A radiographic study. By ALFRED E. BARCLAY, M.A., M.D., B.C. (Cantab.), M.R.C.S., L.R.C.P., Medical Officer to the X-ray and electrical departments of the Manchester Royal Infirmary, &c., &c. Price, \$2.25. Toronto: The Macmillan Company of Canada, Limited.

The great amount of excellent work done with the X-rays upon the abdominal organs in the past few years, stamps this book of the utmost value to the physician and surgeon. It was Sir William Osler and Sir Clifford Allbutt especially who urged the publication of what was originally a prize thesis in book form. It reforms our knowledge as given us by the anatomist of the position of the stomach and other abdominal organs. It certainly establishes the X-ray as a valuable factor in diagnosis. The writer, however, in our judgment, should have incorporated some pictures, purposely left out, of the abdominal organs, particularly the stomach in the position ordinarily used by the clinician in arriving at a diagnosis. As the supply is a limited one, orders for the book should be early placed with the Macmillan Company, St. Martin's House, Bond Street, Toronto.