

PAGES

MISSING

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EDITORIAL

OSTEOPATHY ONCE MORE.

One would have thought that we had said enough to have silenced this cult. With the boldness of Autolyceus one or other of the ilk comes forward and wishes to be heard. The following letter is our excuse for again exposing this so-called system:

"Brandon, Canada, Jan. 15th, 1917.

"Editor of *The Canada Lancet*,

"Toronto, Canada.

"Dear Sir,—I am a regular subscriber to your journal, as I try to keep up on all sides of medical practice. Do you do as much?

"I was amused and interested in the address of Dr. Ferguson, published in your November issue. I noted his several denials, merely denials, no proof to support them, hence his view is without effect. Usually when a writer is down on a subject it is because he is not up on it.

"I am also interested in the January *Lancet*, just at hand. Your remarks editorially are noted. I quite agree with your views on chiropraxy; but, on osteopathy am mailing you, under separate covers, Nos. 4 and 6, Volume 31, of "Osteopathic Health," for your enlightenment, if you will honestly read the booklets. Note the publisher's notice, as to the competency of the author. Please honestly investigate osteopathy as here presented, and if you find therein any statement unscientific, so note it in your reply.

"Personally, I investigated the principles of osteopathic medicine several months, from every possible source, before I began the study of it. I was then connected with the University of Idaho, Moscow, Idaho, as professor of chemistry and chief chemist of the experiment station. I went to the Philadelphia College of Osteopathy and Surgery, for my course; was on the faculty of the college eight years, the last five years as dean. I have been in practice fourteen years. I am licensed by the

Pennsylvania Osteopathic Board of Examiners, and also by "The State Medical Council" of West Virginia, *all allopathic physicians*, all candidates taking the same examination, except in the principles of the school represented by the candidate.

"In point of education I have the degree of M. Sc. from the Michigan State College, and Ph.D. from the University of Wooster, and D.O. from Philadelphia College of Osteopathy and Surgery. I also have the honour of a fellowship in the American Association for the Advancement of Science.

"To matriculate at any osteopathic college in the States, one must possess a *four year high school or collegiate diploma*, then study four years of eight months each for graduation. Kindly note courses of study, third cover pages, No. 6, booklet.

Very cordially yours,

(Signed) CHAS. W. McCURDY."

To begin with all the degrees, diplomas, and other qualifications of our correspondent have absolutely nothing to do with osteopathy. A person might be highly educated and well trained in many ways and take up with some "fad" or pseudo-science, as has often been the case. We knew an honour graduate of the University of Toronto who became a Christian Scientist and advocated Mrs. Eddy's nonsense to other people. Can one imagine such a thing as possible! We know an eminent lawyer who believes in the vagaries of chiropraxy.

We are glad to note that our correspondent agrees with us in our condemnation of chiropraxy. No one should know better than an osteopath the follies of chiropraxy; for the latter is the former under a new name. We have read the books of both cults, and they do the same things under another name. They both rub and twist the spinal column, knead the muscles, pull about the joints, and replace unruly organs that, like the kitten of old, are said to wander from their proper places.

Our correspondent sends us a card which tells us that "osteopathy successfully treats" spinal disorders, joint disorders, nervous disorders, diseases of the circulatory system, diseases of the genito-urinary tract, diseases of women, diseases of men, diseases of childhood, diseases of age, diseases of the ear, eye, nose and throat and catarrhal deafness.

This does not seem hardly enough! Diseases of the hair and of the umbilical cord are overlooked. All this is done without drugs, and by a process of manipulation. So that if a patient has had syphilis and the spirochetes are hard at work building a gumma in the poor fellow's brain, all that needs be done is fumble up and down his spine every day for a while; and, *mirabile dictu*, the gumma will go away as Creusa did, but the poor fellow will go too as did that fabled woman.

But our correspondent tells us in this card "the basic principle of osteopathy is adjustment. Whether the mal-adjustment be in form: structural, environmental, mental or dietetic. Knife surgery is employed only when necessary. So when a woman has a cancer of the uterus the thing to do is "adjust." Get the organ to its proper place by twisting some joint in the spinal column. If she has a cancer in her breast, only employ knife surgery when imperative, that is late in the disease, when all hope is gone, instead of at the inception when a cure is to be expected. If the patient is suffering from piritonitis the spine is loosened up, and the abdomen is massaged as laid down in Chas. H. Murray's book (see rule 94).

Our correspondent asks us to read the two booklets he sent us by M. A. Lane. We have done so, and brand them as the verriest of rubbish. They laud in a most fulsome manner the work and attainments of Dr. A. T. Still who cursed humanity by introducing his system called osteopathy, as Mrs. Eddy injured religion by her Christian Science. There is absolutely nothing in Dr. Still's system but the rubbing, and this was known long, long before Dr. Still was born. We have no doubt but the old Egyptian Pharaohs had their rheumatic feet rubbed by one or other of their best looking wives. Had we the time we could riddle Mr. Lane's statement fore and aft, but it would be a waste of effort. The views of Dr. Still count for nothing, other than to say, however, that Mr. Lane fails hopelessly in his attempt to prove that Dr. A. T. Still had any true notion of immunity. All that Dr. Still knew was the common knowledge of his day that people did not take certain diseases, as scarlet fever or smallpox, a second time. To try to read into Dr. Still's writings or teachings anything more than this is to search for wheat where there is only chaff. With regard to lesion, that Mr. Lane makes so much of, Dr. Still only had in mind some displacement of bone, organ, or faulty nerve action. His writings show that he was not in any sense a scientist, that they were radically erroneous. In Dr. A. T. Still's autobiography, page 218, we find their remarkable and ridiculous statement:

"That a disturbed artery marked the beginning to an hour and minute when disease began to sow its seeds of destruction in the human body. . . The rule of the artery must be absolute, universal and unobstructed or disease will be the result."

Here we have from Dr. Still himself a theory of the origin of disease that would be beyond compare humerous, were it not that it is so serious as one of the props upon which a false system of pathology and therapeutics has been built. The most elementary knowledge of disease shows that foregoing position of Dr. Still is wholly inadequate as an explanation of diseases in their many forms.

But we must look a little further into Dr. Still's teachings; and, again, in his autobiography, page 100, we find this astounding assertion:

"All the remedies necessary to health exist in the human body. . . They can be administered by adjusting the body in such condition that the remedies may naturally associate themselves together."

So if a person has a tumour in his brain the remedy is somewhere in his own body that will make him well again, but it must be set free, and this the osteopath does by loosening up the spine and some other equally stupid manipulations.

But on the cause of disease perhaps the following might be regarded as the culmination of absurdity. It is found on page 108 of Dr. Still's autobiography:

"The cause can be found and does exist, in the limited and excited action of the nerves only, which control the fluids of part or the whole of the body. . . All diseases are merely effects, the cause being a partial or complete failure of the nerves to properly conduct the fluids of life."

To every one but the benighted osteopath the foregoing quotation must seem downright nonsense. According to this quotation fevers, tumours, degenerations, derangements, are all due to a "failure of the nerves to properly conduct the fluids of life." It is to perpetuate this weird travesty on the science of medicine that a number of colleges have been founded, and laws in the States enacted. Truly, the law makers need some education.

Our correspondent states that the osteopathic colleges exact a four-year course. It would not improve matters any if they exacted a ten year course so long as they teach such an erroneous system of science. Indeed, one would think that the more of it they teach the worse for both students and people. Over the whole system of osteopathy we may write the words of Dante, "Abandon hope all ye who enter here."

If Dr. Still was the great scientist and genius Mr. Lane makes him appear, it is strange that no mention is made of him in the Encyclopaedia Britannica, The American Encyclopaedia, Nelson's Encyclopaedia, Chambers' Encyclopaedia, or the International Encyclopaedia. We must conclude that the editors of these great works do not agree with Mr. M. A. Lane, whose chief merit, in writing about Dr. Still, is to employ adjectives.

For the benefit of our correspondent we venture to state that we have advanced proofs in abundance that osteopathy is only rubbing or massage under a new name, and was known to the ancients.

But all this talk about "Drugless Treatment" is worse than a delusion. None but a fool would deny the man who is in agony due to the passage of a renal calculus, the boon of a hypodermic dose of morphine. The man would be worse than a criminal who did not administer anti-diphtheritic serum to a child ill with the disease. He would be recreant, to both the soldiers and his country, who withheld the protective doses of antityphoid inoculation. For the terrible affliction of ague we have a remedy in quinine. Then turn to the fearful ravages of syphilis, and place against this the curative power of mercury. By osteopathy these diseases would be treated by manipulating the spine. Just think of the fate of the patients. No, Dr. A. T. Still was wrong. His etiology of disease is a joke and his system of treatment a crudity and a cruelty combined. Recall, if one will, the results that must follow the loosening up of the spine and the massaging of the abdomen in a case of peritonitis, or the thorough manipulation of the neck in a case of diphtheria. We speak by the book. Our correspondent stated that "usually when a writer is down on a subject it is because he is not up on it." We are down on osteopathy for the very reason that we have studied it. It has been weighed, and it has been found wanting.

HABIT FORMING DRUGS.

Those who have had an extensive experience in institutional work, or in the carrying on of a large practice over many years are best able to judge of the seriousness of the drug habit, and how numerous the victims are. Those who make the laws, regulating the sale of habit forming drugs, as a rule seldom have first hand information, and must depend upon the medical profession for guidance in this matter.

Some have acquired the habit of using some narcotic drug because of some painful condition from which they sought relief. Others acquired the habit during a period of illness when the drug was prescribed. Others have become habitués through some proprietary preparation sold on the open market containing a habit forming drug. Then there are those who resort to drugs because they first used alcoholics to excess.

The number of drug users is steadily increasing; and this means an effort must be made to throw around the sale and administration of these drugs very careful regulations. It must be made impossible for any one to procure such drugs on the open market, any form of patent medicine, containing a narcotic drug.

Then, again, there should be an effort made to prevent medical

men ordering for patients who are addicted to the use of habit forming drugs, these drugs in other than the most limited amount, and as may be merely required during the treatment for their habit.

It is expected that the Federal Government at Ottawa may soon deal with this subject through amendments to the act governing the sale of these drugs. It is to be hoped that the suggestions that have been drawn up by the Toronto Academy of Medicine, may find their way into the statute book. If so, a great step will have been made onwards.

PENSIONS FOR SOLDIERS.

The Board of Pension Commissioners for Canada have a very responsible duty to perform and require the careful co-operation of the medical profession. In the carrying out of the work of the Pension Board the members of the medical profession can be of the utmost service.

It goes without saying that every practitioner should be most careful not to issue certificates that are not strictly correct. In no case should the complaint of the soldier be exaggerated, as such a certificate might very seriously mislead the commissioners, and enable the soldier to secure an advantage to which he is not properly entitled, by way of leave of absence or pension.

Every member of the profession should bear in mind that the wilful granting of a false certificate renders the issuer liable to criminal action. But the certificate may be incorrect and yet given carelessly without a desire to deceive. Even such a certificate puts the issuer in an awkward light, that a little care would have averted.

We urge upon all to exercise strict impartiality in the examination of soldiers, and the recommendations for either pensions or leaves of absence.

THE CANCER QUESTION.

At a recent meeting of the American Society for the Prevention of Cancer several speakers of wide experience gave their hearers the benefit of their researches.

Dr. James Ewing of Cornell University College spoke encouragingly of the good effects of radium in the treatment of the disease. He frankly admitted that it cannot be relied upon as a means of permanent cure. It has proven of much value in the treatment of cancer of the skin and mucous membrane. It has also been of signal value in the treatment of

uterine cancer in which the radical operation was not possible. In some of these cases a complete cure seems to have been obtained, while in others there has been a marked abatement of the distressing symptoms. In some cases of cancer of the tongue, rectum, lip, etc., much benefit has been secured. Success depends very largely upon the skill and accuracy of application, upon a knowledge of the anatomical character of the particular tumours treated, and above all upon attacking the disease before it is too far advanced. Under dosage is one of the things to be guarded against, as it may destroy the superficial cells, and leave the deep ones to go on and cause the disease to become active again. Further, its action is local and penetrates only to a depth of six to ten centimetres. Dr. Ewing concluded by saying: "For inoperable cases the value of radium, though great, is perhaps already over-estimated. To what extent it may establish itself in the treatment of operable cases it remains for the future to decide."

Dr. Joseph C. Bloodfood of Johns Hopkins, emphasized the facts that cancer at the commencement of its career was a local disease and was curable by removal. He paid much attention to the preventive side of the question by the removal of such conditions as might end on cancer, such as warts, sores on the lip or tongue, a small nodule somewhere, an unhealed wound.

When a small tumour is removed from the breast early in history fifty per cent. are found to be benign. When the tumour of the breast is cancerous the chance of cure depends on the type of the disease, the length of time it has existed, and the thoroughness of its removal. Early discovery and early removal are the keynotes to success. For this purpose the people must be educated.

SIX YEAR COURSE IN MEDICINE.

The Universities of Toronto and McGill have announced that, beginning with 1918, a six year academic course will be required to graduate in medicine. To this proposition, Queen's University raises a strong protest.

The main objections are:

1. Six years is too long a period to spend in any one college.
2. Six years of academic study will tend to force men into practice without doing interne or post graduate work.
3. The introduction of the six year course is not opportune, as the five years course has not been sufficiently tried. There is at present an unusual demand for medical men.

4. This plan is following the United States' methods rather than the British. So far this country has worked out its own plans which have given good results.

5. It is further objected that medical affairs in Ontario are under review at present by a commissioner, and the universities should wait for the present.

6. The views of the medical profession should have been ascertained, as represented by the other colleges, and the licensing body. It is very doubtful if public opinion is ready for the addition of a year to the preparation for a medical course.

7. The cost must be borne in mind. The five year course comes to \$2,500, and the addition of another year would run the cost of a medical education up to \$3,000.

SODIUM CACODYLATE.

H. N. Cole, Cleveland (*Journal A. M. A.*, Dec. 30, 1916), has tested the efficacy of sodium cacodylate, which has been claimed to be a powerful remedy in the treatment of syphilis. A series of selected cases in the Cleveland City Hospital were taken. At first a dose of about 0.25 gm. was used, followed by one of 0.45 or 0.5 gm. every five days up to five or six injections. After one or two trials, however, they were convinced that they would have to use it either in larger doses or more frequently to gain results. The latter was chosen, and they gave it at first every four days and later every three. Their work was overseen throughout by Prof. Torald Sollmann. The patients were together in wards, and it was not always possible to follow out the treatment sufficiently, as they were inclined to take it in their own hands. Otherwise, they were all carefully studied and collectively showed all the symptoms, primary, secondary, tertiary and, in several, involvement of the nervous system, as is shown in the brief reports given. Careful analysis of the results was made and confirms the contention of Nichols and others. Sodium cacodylate, Cole says, has proved worthless as a spirocheticide in spite of the claims that have been made, and he believes that he is justified in saying that, at the most, it has perhaps a slight effect on nodular and papular syphilitids, which he thinks can be explained entirely from the tonic action of arsenic on the system. In cases with mucous patches it is worse than useless. In one case there was a drop in the spinal fluid cell count from sixty-five to twenty-five, but the Wassermann and Noguchi tests remained positive; two other patients with cerebrospinal involvement showed no practical change. The routine Wassermann in all ten cases remained positive.

ORIGINAL CONTRIBUTIONS

CARRIERS OF DISEASE.*

By Sir James Grant, K.C.M.G.

President and Chief of Staff, General Hospital, Ottawa City.

AT no period in our history has the subject of carriers of disease attracted a greater degree of interest than at present. It may be divided into two classes, those at home, and those abroad. Travellers abroad are in new, and often unknown surroundings, and risk of infection all the greater. Travellers at home, en route by train or boat, may contract disease from unknown germs, to which subjected. Recently, a case of well marked diphtheria developed in a farmhouse near Ottawa. The servant became alarmed, and left after two days employment. A week afterwards this same servant engaged with a family in a healthy section of Ottawa city, and in one week a child developed diphtheria, where this disease was not known previously, and in severe form doubtless the result of germs, carried from the throat or nose of first case. Under such circumstances the health officer should have been notified, the servant isolated, and disinfected, to prevent spread of the disease. Fully thirty five years ago, Ottawa district and city experienced a severe and most fatal epidemic of diphtheria, many cases of a malignant character in which large vessels of the throat sloughed in a short time, sudden death from hemorrhage following. The epidemic was brief in duration, and no specific cause of its origin could be found.

The accidental uncovering of some Indian mound, or grave, of past time, in agricultural operations, may have unearthed a pent up virus, which spread this disease in malignant form.

In 1832 my father, Dr. Grant, Glengarry, Ont., arrived at Quebec from Scotland, when a severe epidemic of cholera prevailed. Friends he met on arrival died suddenly of collapse, and in Montreal he noted many sudden deaths of a like character. The sea voyage was six weeks, with my parents in a sailing vessel, one year old. No Atlantic steamers or submarines in those days—eighty-five years ago, sanitary science then in infancy, and little known of preventive medicine. To-day ships and immigrants are inspected thoroughly, and bacteriology turned to practical account.

The stools from cholera cases are said to be free from the spirilla in from 12 to 14 days. Cholera once under control does not usually appear again, unless brought from different parts by carriers. The

* Read before Canadian Public Health Association, Quebec.

progress of science is remarkably in evidence at present, in the treatment of cholera. 150,000 Serbians recently inoculated with Wrights Prophylactic Serum, to combat this disease, chiefly indicated by lowered blood pressure, cessation of kidney function, and concentration of blood. Loss of vasomotor control of capillaries in intestinal canal, resulting from absorption of endotoxins, a drainage of blood fluid, characteristic rice water stools, and vomit. Collapse is the most important phase of this disease, now counteracted by a method of *continuous intravenous saline transfusion*, the results most encouraging. In cholera the contagious element is present in the stools, and by perfect disinfection, an outbreak of this disease can certainly be suppressed.

Jaundice Epidemic.

In 1878 an epidemic of jaundice developed in Hull city, opposite Ottawa, of mild character, presenting no serious complications. The jaundiced condition of eye and cutaneous surface, complete, and urine tinged with bile, occasional indications of depression, loss of appetite and slight nausea at times, owing to disturbed digestive functions, from proximity of over-loaded liver, with bile. Administered salines freely to unload the liver and alimentary canal. In a few weeks, this epidemic disappeared, leaving no serious consequences. At first I thought it was caused by phosphorus in match making operations, Eddy factory. Such, however, was not correct, as I detected cases in families not engaged in factory works. Two other epidemics of jaundice, I am aware of in Canada, one in the practice of Dr. Stanley, Lambton county, Ont., twenty-eight years ago. Fully one hundred cases came under his observation, chiefly in the country, and amongst children, catarrhal in character, not serious, no deaths, and some cases of jaundice observed in adults. A third in the practice of Drs. Connolly and Graham, Renfrew, twelve years ago. Fully 100 cases noted, three and four in one family, chiefly children, catarrhal in character, occasional slight fever, extended over a period of three months. No deaths.

In 1896, Dr. Weil, of Heidelberg, Germany, described four cases of peculiar form, of acute infective disease, characterized by jaundice, by most Germans considered hitherto unknown. The exact nature of this epidemic is not yet decided, although Prof. Jaeger discovered an organism, *Bacillus Proteus Fluorescens*, in the urine and organs, in several cases.

The House Fly.

There are few more active carriers of disease by living germs than the house fly, and particularly in infant life, tuberculosis, cholera and tropical sore, also carried by the fly. Not only rural inhabitants are

exposed to this serious risk of disease, but military camps suffer in a like degree. In our warm season the fly seeks the best possible camping ground for breeding purposes, chief being a fresh heap of horse manure, and the dust bin, for depositing their eggs. About two weeks will accomplish the life history of the maggot, generations following in quick succession, until kitchens, camps and dwellings, actually swarm, a perfect fly multitude. A chief object in view is to tap the supply at once, and wipe out the hibernating larvae. The serious mortality in infant life is chiefly due to the house fly depositing its virus on the lips of infants, and thus developing fatal intestinal diarrhoea, and the manure heap is the chief object to guard against. Hence the vast importance of thorough, sanitary regulations in city and country life.

Dr. McCullough, Registrar General, Ont., states the death rate in children under one year of age, in this Province, is 140.3 per 1,000, in our chief cities, 1914.

The most successful method of insect destruction is to surround the manure heap with a ring of dry straw, *where mature larvae migrate*, to pupate, the whole swept up twice a week, and cremated with the straw. All material in dust bins and sanitary pails, suitable for fly breeding, should be carefully covered, to prevent the fly depositing eggs; fully 90% of house flies discharge their eggs and larvae in horse manure. The ordinary stable fly and the Tsetse fly of South Africa, so fatal in sleeping sickness, are closely related, and active factors in carrying germs of disease. The house fly is an absorbing subject, upon which Dr. Hewitt, Chief Entomologist of Canada, has written an able work. Filth, flies and infective diarrhoea of children are closely associated. Too close attention cannot be given to this subject, to guard, as far as possible, the lives of a coming generation, particularly while the young blood of Canada, is in such demand, in the interests of King and Country. A new weapon for destruction of house fly or Heppitts spray won golden opinion.

Infantile Paralysis.

Infantile paralysis has made its appearance in New York city, and at a few points in Canada, sufficient to excite a degree of alarm. From careful statements by Dr. Flexiner of the Rockefeller Institute, New York, and Deputy Commissioner Billings, this disease is spread by personal contact, of one child with another, as in whooping-cough and measles, and children transmit the disease, while in period of incubation; adults are carriers to a negligible extent, if at all. There have been no epidemics of poliomyelitis, so far recorded in Canada. Only occasional cases in widely scattered locations, and treated successfully. Children are the usual victims, although no age is exempt, and the most

alarming feature is the deformity, likely to follow her life. Experts are vigorously enquiring into the cause of this disease, supposed to result from a germ, so small, and attenuated, that it has not yet been defined. It is more robust than the virus of rabies, and shows no diminution in virulence in passing through several bodies. A remarkable fact is that the germs, after passing through twenty-five separate series of monkeys, were as powerful as ever. It is beyond doubt a living organism. The immediate cause of death is usually by paralysis of the respiratory function, with painful slowness until death takes place. The drug Eurotropin, antiseptic in action, has not proved very satisfactory as a curative agent. The house fly is said to play a conspicuous part in the spread of this disease. The infectious agent enters the body, chiefly through mucous membrane of throat and nose, where the virus is known to exist. *Kissing*, coughing, and sneezing, likely to spread the disease. Mother and nurse must exercise great care in wiping off secretions of children, not to spread the disease by infected material, on their fingers. This disease has been detected in homes of food vendors, chiefly through uncooked food.

Infantile paralysis, states Prof. Arnold Netter, a member of the Academy of Medicine, Paris, and an authority on this disease, "is a malady as old as the world, and which has long been known in the form of sporadic epidemics, affecting adults as well as children. Thousands were affected by this disease in Sweden in 1905, and France suffered in turn in 1909 and 10, and even as late as 1914. In the treatment of this disease, injections of serum derived from subjects, who have been previously affected by the disease, were employed, and the results were excellent, when the disease could be treated, at the outset of the attack."

Dr. Matthew Hay of Aberdeen, Scotland, has had considerable experience in poliomyelitis, and states though recognition of carriers, in cases is difficult, prevention of the disease is not, and that the virus in nasal, and buccal cavities, is easily killed by a dilute solution of permanganate of potash, (1 in 1,000) washing out these cavities frequently, with this solution. (*Lancet*, August, 1916.)

A special advisory committee on bacteriological studies, of cerebro-spinal fever, during an epidemic of 1915, by medical research committee of Great Britain in 1916, reported. "It may be concluded from these facts that the direct source of infection in cerebro-spinal meningitis, is usually to be sought, not in another case of the declared disease, but in the undeclared carrier, the transfer from pharynx to pharynx of an organism, in coughing and sneezing, such as in influenza and common catarrhs.

Of all the carriers of diseases, none surpass the bacillus tuberculosis

of Koch. It flits through the atmosphere on a particle of dust, a perfect aeroplane, carrying 15 or 20 bacilli, at a time, seeking some weak constitution on which to unload its activity, and thus establish a new colony of tuberculosis. Systems, strong, healthy and vigorous, are not attractive, under such circumstances, and thus escape an attack of the enemy.

The better showing in health in Canada, is the result of vigorous action in sanitary conditions, in congested districts. Our present infant mortality is one of the most serious problems. The present tragic epidemic of infantile paralysis in New York, is ample warning to our cities. To-day we fully appreciate the value of sanitary surroundings, the outcome of progressive hygiene in our schools and colleges. A thoroughly clean house *promotes* health, comfort, happiness and longevity.

Typhoid.

Ottawa city experienced two epidemics of typhoid fever, one in 1886, and the second in 1912. Impure supply of water chief source of trouble, both epidemics severe in character, and attended by considerable fatality. Ottawa city is now entirely free from typhoid, as water supply is chiefly from numerous surrounding springs, temporary in character, until such time as the Gatineau Mountain Lake System of water supply is placed in operation. It is a well established fact, that every city which permits conditions to continue, producing a high typhoid rate, is responsible for an output of typhoid carriers, promoting the spread of that disease. This entire problem is undergoing a thorough scrutiny, by sanitarians, a marked change for the better is strongly in evidence. Few scientists have devoted greater attention to the study of the transmission of typhoid fever, than Dr. Budd, of Bristol, Eng., in 1841, at which time he produced evidence, of remarkable penetration, in the actual interpretation, of zymotic conditions. He defined that typhoid fever was contagious of a specific nature, and in 1973 prophesized the bacillus which was discovered fully eight years subsequently, and that typhoid fever only propagates itself, and no other. He recognized the period of incubation, of the disease, the immunity of those, who once had it, and the liability of those living in the same environment, to contract the disease; also that the intestinal discharges were chief factors of its spread. Dr. Budd laid great stress on the fact that safety resulted from disinfection of the discharges, isolation of typhoid cases, careful washing of attendant's hands, and boiling of both milk and water. Golden rules unfailing in practical results. Typhoid, which in former years, was most insidious enemy, is now reduced to a negligible factor, chiefly by preventive vaccination. In the Spanish American War, and the Boer War, more deaths the result of "bacilli" than "bul-

lets." In the Russo-Japanese War, progressive scientists grappled nobly with this problem. Our Canadian army was most carefully and prudently protected by anti-typhoid vaccination, and results charmingly in evidence. Strict supervision of the health of the army is necessary, as well as most careful inspection of the fighting soldier to guard against this disease. The record of the British army, in England and France, reported by Sergeant General Keoch, is most remarkable, only thirty-six cases of typhoid last year. Next in importance to typhoid fever is yellow fever. Asst. Sergt. General Carter of the United States Service, reported ably on immunity to yellow fever. After years of practical experience, considers the immunity conferred by an attack of yellow fever to be permanent. The evidence against the existence of human carriers in this disease is stronger than against the occurrence of secondary attacks, "*London Lancet*, July 31st, 1915." The mosquito is known to play a conspicuous part in this disease. The marvelous power of petroleum has actually wiped out the carriers of disease from many a pregnant marsh, and established a degree of health, truly remarkable, in this nineteenth century.

In the United States, Dr. Sawyer, Director Hygienic Laboratory, California, reports carriers of typhoid are common and dangerous. Fully five per cent. of cases of typhoid fever remain carriers. A carrier as waiter, or cook, on a dining car, might infect the food of many passengers. Present care in ice handling and drinking water, tends greatly to lessen infection. Regulations in trains and boats, on the use of paper drinking cups, replacing ordinary drinking glass, lessens greatly the prospect of transferring germs, from the mouth of a diseased to a healthy individual. Under like circumstances, towels should be for one person only. No person with a suspicious history should be employed, where a carrier would be dangerous. In Mexico, the present special danger region, to the Republic, typhus and ordinary lice are closely associated, parasites of a germ caused disease. Kellogg of Stamford University, California, states the ordinary bed bug is strongly suspected of spreading by its bites, half a dozen serious diseases caused by various bacilli and sporozoa. It is a cosmopolitan insect, very prolific, three or four generations yearly. Bubonic plague is disseminated among rats, and from rats to man by fleas, piercing the skin, sucking the blood, and distributing the bacilli of that plague. Lice, bed bugs and fleas have not yet been proved to be the incubators of any germ disease, as the mosquito is, for the malarial parasite. Any insect that associates closely with man, sucks his blood, and eats his food, returns the compliment by imparting germ caused human disease. Insects follow man in worldly migration, transporting as a special duty insect disease, germ carriers.

In conclusion, it gives me pleasure to quote the charming sentiment of the bard of Scotia, Robert Burns, on his impressions of insect life, the outcome of "A louse on a lady's bonnet."

"Ha, where ye gaun ye crawlin' ferlie,
Your impudence protects you sairly,
A wad some power the giftie gie us,
To see ourselves as others see us,
It wad frae monie a blunder free us,
And foolish notion."

Quebec, Sept. 14, 1916.

THE RELATION OF DYSPNOEA TO ACIDOSIS.*

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AN increase of pulmonary ventilation, whether it be of the extreme grade characterized as dyspnœa or of a less distressing degree of severity, is a symptom common to a large variety of pathological conditions; and it is natural to inquire what, in each of these conditions, is the immediate cause of the phenomenon, and whether indeed it may not have the same immediate cause in all. Among the many factors known experimentally to be capable of producing dyspnœa, one of the most definite is acidosis. It is the possible role of this condition that I propose to discuss to-night.

The movements of the respiratory muscles are initiated and controlled by the respiratory centre. The activity of the centre, again, is dependent upon the reaction of the blood as defined by its hydrogen ion concentration. The hydrogen ion is the natural and adequate stimulus of the respiratory centre. To a rise or fall in the hydrogen ion concentration, the latter is extraordinarily sensitive. Our finest instruments can hardly detect during life, any variations whatever in the hydrogen ion concentration of the blood; but minute variations are constantly being detected and responded to by the respiratory centre. Let the hydrogen ion concentration of the blood fall ever so little below the normal, and breathing ceases—the subject passes into the state of apnœa. Let it rise and we get exaggerated respiratory movements, hypernœa or dyspnœa.

An increased ventilation of the lungs may therefore conceivably

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be brought about by one of two things: first, by a rise in the hydrogen ion concentration of the blood, that is, by a change in the natural stimulus of the centre; second, by such a change in the centre itself as will cause it to respond more readily to stimulation, that is by a rise in its excitability.

Neglecting for the moment the second possibility, let us try to elucidate the causes and effects of a change in the stimulus, the hydrogen ion concentration.

The hydrogen ion concentration of the blood is determined by the balance in it between bases and acids. Since the end products of metabolism, pouring into the blood, are nearly all acid, the constant tendency of the hydrogen ion concentration during life, will be to rise. The acids produced in metabolism fall into two groups: first, the volatile acid, CO_2 ; second, the fixed acids, such as H_2SO_4 , H_2PO_4 , lactic, hydroxybutyric, etc. The entrance of these acids into the blood would soon render the latter acid, were it not that provision is made for their prompt excretion, the CO_2 by the lungs, the fixed acids by the kidneys. Should the production of either class of acids be excessive, or should its excretion be blocked, the conditions will favour a rise in the hydrogen ion concentration, the respiratory centre will respond to the increase of stimulation, and hyperpnoea will be the manifest result.

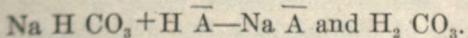
The conditions accompanying this hyperpnoea are, however, not altogether the same for the two groups of acids.

(1) Consider first the case of the volatile acid, CO_2 . An increased production of this substance occurs physiologically, as a result of muscular exercise. The excess enters the blood, is carried by the blood to the lungs, and is there excreted, the immediate effect will be to raise the CO_2 content of the air within the lungs, above the normal. But the blood reaches also the respiratory centre, and reaches it with the hydrogen ion concentration, raised by the excess of CO_2 which it is carrying. The centre therefore is stimulated, and responds by increased ventilation. The extra CO_2 is soon washed out of the pulmonary alveoli, and the normal composition of the air within these is restored. As long as the production of CO_2 is above the ordinary, so long the stimulation of the centre and the hyperpnoea will continue; and they will be of just such a degree as will suffice to keep the concentration of CO_2 in the alveolar air, and therefore in the blood, at the normal. The normal for the alveolar air, is about 5.6% of CO_2 , a concentration which corresponds to a partial pressure or "tension" of 42 mm. of mercury. So sensitive is the mechanism described that an increase of alveolar CO_2 to only 5.8% results in a doubling of pulmonary ventilation.

There are comparatively few pathological conditions in which the

total CO_2 production of the body is increased; but there are some in which a similar effect may be produced in another way. An increase in the CO_2 of the blood might be caused not only by increased production, but also by diminishing excretion. An obstructed excretion would be represented in its most extreme form by asphyxiation, and in milder grade by anything which diminishes the effective area of the pulmonary alveoli, or interferes with the pulmonary circulation. This would include such conditions as pulmonary phthisis, emphysema, and some varieties of cardiac decompensation. In these, then, one might expect to find dyspnoea associated with a CO_2 tension which was normal or even above normal. The association actually occurs, whether the explanation offered be a complete one or not.

(2) We have now to look at the possible effects of excessive amounts of fixed acids in the blood. These cannot be got rid of, like CO_2 by the lungs. They must be disposed of by the kidneys. In passing into the urine they carry with them some of the bases of the blood, in particular the sodium. If the condition be long continued and uncorrected, this drain of sodium produces ultimately a permanent effect upon the composition of the blood. The blood becomes poorer in sodium bicarbonate, as indicated by the equation.



This drain of bases from the body, with consequent diminution in the bicarbonate, of the blood, constitutes acidosis.

What is the effect of this condition upon the respiratory function? The excess of acid enter the blood tends to raise its hydrogen ion concentration; the respiratory centre is accordingly stimulated and pulmonary ventilation increased. There will therefore occur a sweeping out of CO_2 from the blood. Since the CO_2 was not previously in excess, it will now be diminished, and the alveolar CO_2 will be correspondingly lowered, not, as in the former type of hyperpnoea, normal or raised.

The matter may be presented from another point of view. The hydrogen ion concentration of the blood is determined by the relation between its acids and its bases; that is, chiefly by the ratio $\text{CO}_2 : \text{Na CO}_3$. If the Na CO_3 be diminished, as in acidosis, then, to keep the hydrogen ion concentration constant, the CO_2 must be diminished too. That is, there will be a fall in the free CO_2 of the blood, and consequently also in the alveolar CO_2 , which follows its fluctuations.

One very important manifestation of acidosis, then, is a diminution in the alveolar CO_2 ; and the determination of this fact being a comparatively simple matter, affords an excellent clinical means of detecting and estimating the severity of an acidosis.

Are there, now, any actual pathological conditions in which an existent dyspnoea can be shown to be due to an acidosis operating accord-

ing to the mechanisms described? There is at least one, namely, diabetic coma, in which a positive answer can be given with considerable confidence. In diabetic coma the alveolar CO_2 may fall from the normal tension of about 40 mm. to one of 20, 10, or even less. Even the hydrogen ion concentration of the blood, so tenaciously maintained at a definite level, may commence to fall. There exists very little doubt that the high grade of acidosis thus indicated is the direct cause of the hyperpnoea so frequently encountered in the terminal state of the disease.

As to the extent to which acidosis should be held responsible for the dyspnoea of renal and cardiac disease, there is much less certainty. That it plays some part in the development of the respiratory embarrassment in both cases has been made extremely probable; but it is by no means clear that it is the only, or even always the principal etiological factor involved.

(1) *The Dyspnoea of Nephritis.* It is beyond question that nearly every case of nephritis, except the very mildest, shows some degree of acidosis. The earliest signs of this are the high acidity of the urine, and the fact that it takes a larger dose of Na H CO_3 than normally to render the urine alkaline. As the disease develops, the kidney remains for a long time entirely capable of dealing with this acidosis, and the alveolar CO_2 is therefore not affected. It is only in advanced cases, and especially in those of the chronic glomerular type, that the acid excreting capacity of the kidney, along with its other functions, becomes dangerously depressed. When that happens, the alveolar CO_2 begins to fall. A series of cases reported by Peabody showed an alveolar CO_2 tension varying from 6 to 36 mm.; the great majority however, lying between 60 and 36. When uremia develops the signs of acidosis all increase in severity and the tension of CO_2 is generally found to have fallen to 25 or 30 mm.

When we come to consider whether the acidosis thus manifested is solely responsible for the dyspnoea, so frequently encountered in chronic nephritis, we find it difficult to reach a definite conclusion. Measured by the alveolar CO_2 , the acidosis of nephritis, and even of uremia, is after all not of an extreme grade; it is not nearly so severe, for example, as the acidosis of diabetic coma. It is quite common to meet diabetes with a CO_2 tension of 20 to 30 mm; who exhibit no dyspnoea at all. Among nephritics themselves there appears to be no relation between the degree of acidosis and the severity of dyspnoea. Moreover, the "air-hunger" of diabetes, a typical acidosis dyspnoea differs in type from the rapid, shallow and irregular breathing of uremia. For all these reasons, Peabody, who has given special attention to the problem, is in-

clined to hold that, even in the uremic state, the acidosis of nephritis is not to be held primarily responsible for the dyspnœa.

On the other hand, it must be remembered that even a slight acidosis implies that the body has been to some extent drained of its bases. It will be so much the more liable to have its neutrality endangered by a sudden influx of acid—as, e.g., by the increase of CO_2 produced by slight exertion. If the kidney's function of excreting acid has been impaired, the strain of meeting the danger will be thrown all the more heavily on the lungs; so that influences which in the individual with healthy kidneys would hardly affect the respiration, might in a nephritic produce considerable hyperpnoea.

(2) *Cardiac Dyspnoea.* Cases of cardiac decompensation with dyspnœa but without renal involvement, appear to fall into two groups:

- (a) Those in which the alveolar CO_2 is normal or high, and falls with the re-establishment of compensation.
- (b) Those in which the alveolar CO_2 is low, and rises with compensation.

In the first group, dyspnœa is perhaps to be explained in the manner already suggested as due mainly to an interference with the regular exchange of gases in the lung alveoli, whereby the CO_2 is prevented from escaping at a normal rate.

In the second group, acidosis evidently exists, and may play a part in the genesis of dyspnœa. The cause of the acidosis is perhaps defective oxidation consequent upon the obstructed circulation. Its manifestations are the usual ones. The alveolar CO_2 is found as a rule to lie between 30 and 40 mm. Here, again, therefore the acidosis can hardly be regarded as a severe one. Against viewing it as the sole cause of the dyspnœa, there exist therefore the same arguments as in the case of nephritis; and they apply here with the greater force in that the power of the kidney to eliminate acids is presumably still intact. It is therefore especially in connection with cardiac dyspnœa that the existence of another factor, namely, a hyper excitability of the respiratory centre,—has been postulated. The possibility of dyspnœa being induced by such a condition has been already indicated. The cause of such a hyperexcitability in heart disease is supposed to be interference with the oxygen supply of the centre, due to diminished circulation and inadequate blood flow. When to an overexcitable centre there is added the slight grade of acidosis which undoubtedly exists, one can readily explain the dyspnœa, and especially the great increase of respiratory ventilation which results from the feeblest exertion.

Unfortunately no one has yet furnished incontrovertible clinical or experimental evidence that such a condition as hyperexcitability of the respiratory centre ever actually exists. It is equally true that nothing in

the present state of our knowledge forces us to deny its possibility.

The problems of the cause of renal and cardiac dyspnoea awaits therefore its final solution. At present we can formulate only provisional conclusions. In both, acidosis, caused by interference with oxidation processes or with the proper elimination of acids, undoubtedly plays a part. Probably other factors are simultaneously operative. Obstruction of the gaseous exchange in the lungs may also be partly responsible; and hyperexcitability of the centre is at least a possibility. Finally, in a given case all these factors, with perhaps yet others, may be in various degrees combined.

NOTES ON SOME CASES OF UTERINE FIBROIDS WITH SPECIMENS.*

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FEW growths are three times as common in women as in men.

Twenty-five per cent. of the new growths that affect women originate in the uterus, and of these fibroids are by far the most common.

Reliable statistics show that in one hundred women between the ages of 35 and 50, there will be 20 of them affected, and from the age of 50 on, this percentage will be doubled. It is rare to find a case of fibroid of the uterus under thirty years of age, and under twenty years they are almost unknown.

The majority of fibroids do not give rise to symptoms because they stop growing when quite small and their presence is unrecognized. It is only in recent years that the life-history of fibroids has been carefully investigated, with the result that they are to-day recognized by all *well* informed practitioners as really serious tumours, and their effectual treatment is now an every-day occurrence. Noble in a study of 2,274 cases of fibroids as seen in practice, patients who sought advice because of some symptoms due to the tumour, found that in 1,553 complication and degeneration were present, that is in 68 per cent.

The etiology of fibroid tumour is obscure. It is questionable whether sterility has as much to do with the production of fibroid tumour as the latter has in the production of sterility. We do not know the real cause of these growths. Most of them, or all of them, may be congenital.

Fibroid tumours resemble in their structure the fibro-muscular tissue of the uterine wall. They are composed of interlacing muscular bundles of fibrous tissue and involuntary muscle.

* Read at the Surgical Section of the Toronto Academy of Medicine, 16th January, 1917.

Fibroid tumours, as a rule, are not well vascularized. They receive their blood supply from the capsule to which they are more or less closely attached. Some can be easily shelled out, while in others considerable force must be exercised to enucleate the tumour.

They are usually multiple, varying in size from small growths, hardly perceptible, to huge masses which fill the pelvic or abdominal cavity.

They occur in any part of the uterus, but are rare in the cervix. There are usually a number in the same uterus, rarely one. The number of individual growths is usually from six to eight, while as many as fifty have been reported in a single uterus.

Fibroids grow slowly. A certain proportion of them never become large. As a rule, they grow steadily, once they have gained considerable size. They usually enlarge during pregnancy, which is due in part to hypertrophy of the tumour and in part to edema. As the result of degeneration and the formation of cysts, from this or other causes they may enlarge very rapidly. During involution of the uterus following pregnancy and labour, they often diminish in size and are said to sometimes disappear. Formerly it was believed that many fibroids atrophy and disappear after the menopause.

It is now known that the disappearance of a fibroid by atrophy or by absorption after either pregnancy or the menopause is one of the rare exceptions in the history of these growths, and is never to be expected in any particular case.

Fibroid tumours are divided into three varieties, depending upon their position in the wall of the uterus.

The majority of fibroids begin within the uterine wall and are therefore at first interstitial. During the further growth of the tumour they either remain where they originated or grow towards the endometrium, or towards the serous coat of the uterus, thus becoming submucous or sub peritoneal.

How do these growths endanger the life of the woman?

- (1) By causing haemorrhage.
- (2) By undergoing some secondary change.
- (3) By causing pressure.
- (4) By complicating pregnancy, labour or the puerperium.
- (5) By giving rise to mistakes in diagnosis.

(1) Bleeding due to fibroids may be either intra uterine or intra peritoneal, the latter very rare.

Intra uterine, or bleeding from the endometrium into the cavity of the uterus escaping per vagina. The amount of the haemorrhage depends upon the situation of the tumour, and the size of the tumour is no criterion of the amount of the blood lost. Menstruation is not increased

with sub peritoneal fibroids. On the other hand, when the uterine cavity is invaded, as by a submucus fibroid or a fibroid polypus, menorrhagia often of a severe type is present, and at times also metrorrhagia.

If the uterus contains a submucous fibroid or a fibroid polypus, its cavity is enlarged, and as a consequence a greater surface of endometrium. The endometrium is not healthy, the glandular tissue being hypertrophied, and the amount of stroma and blood vessels increased, with the onset of menstruation. More vessels are ruptured and more blood lost; and because of the fibroid in the uterus, this organ does not contract efficiently, and consequently the bleeding from the blood vessels is not controlled so well as it is in normal menstruation.

With the profuse losses of blood and greater frequency of the periods, the patient's position is a serious one. This leads to profound anaemia.

Grave or secondary anaemia is a serious condition which produces profound invalidism while it lasts, and sometimes is fatal or impossible to cure.

The more usual result of grave anaemia is that, finally, the patients are operated upon, and then unfavourable conditions tend to swell the mortality of operations.

The relation of fibroid tumour to degeneration changes in the myocardium and in the blood vessels is a problem which as yet is not definitely settled. Winter, in an exhaustive report on 266 cases of fibroid tumour from the standpoint of the relation of these growths to heart lesions, made by a specialist in internal medicine, has come to the conclusion that almost all the cardiac symptoms in cases of fibroid tumour are due to anaemia, and in only a small percentage of cases do these tumours cause degenerative changes in the heart or permanent heart lesions.

Case 270: Age 43. Two children aged 11 and 8 years. Several miscarriages, always free menses, had been curretted and had a repair operation. Past two years profuse menorrhagia, confined to bed half the time owing to haemorrhages. Marked secondary anaemia. Is not able to attend to household duties. Examination: uterus large, and a hard nodule found in uterine wall.

Supra vaginal hysterectomy, good recovery, leaving both ovaries. Patient has a showing of a few drops of blood at time for regular menses. End result two years afterwards: Is now enjoying perfect health.

Case 300: Age 46. Metrorrhagia for past 4 years. Unwell two weeks at a time, one child aged 12. Never pregnant since. Marked anaemia with violent headaches. Examination: large hypertrophied uterus, with a small fibroid in cervical canal. Dilated, and with the

currette the interior of uterus felt nodular, in addition to the one in canal, and this other the size of a marble came away. The uterus involuted and no further haemorrhages. End-result: in perfect health since four years.

Case 562: Age 43. Mother of one child aged 17. No miscarriages. Menses always free and without pain. Past ten years the amount of blood lost increasing both in amount and frequency. Patient has to remain in bed for ten days. Thin, pale of a greenish-yellow colour, pulse rapid, no endurance, and feels "like a rag." After a more than usual haemorrhage consulted me, and examination showed a number of uterine fibroids.

Red blood—3,700,000—haemoglobin 70%. Had her rest in bed a month to recuperate, and again had a prolonged and severe haemorrhage. She insisted upon having an operation, as she was conscious that she was becoming weaker after each haemorrhage.

A super vaginal hysterectomy was performed. Patient rallied well, with exception of rapid pulse. Wound healed and patient, with the exception of the pulse which ran from 120 to 150, small and thready, gradually getting weaker from day to day. Died on the 15th day after operation from typical cardiac failure.

Could this patient's life have been saved? Undoubtedly, if she had had the fibroid uterus removed before such profound secondary anaemia had developed.

(2) *By undergoing some secondary change.* A rapid increase in the size of a fibroid at once suggests either pregnancy or some secondary degeneration. These secondary changes occur more frequently in fibroids than in any other form of tumour, and they occurred in 29% of the cases referred to by Noble.

They may become septic, which usually occurs through the endometrium by the agency of some septic discharge, by sounds or instrument which have not been sterilized or a septic miscarriage or labour.

Intra-peritoneal infection is much rarer. It does occur, however, from a diseased appendix, pyo-salpinx, suppurating ovarian cyst, or axial rotation of a pedunculated tumour.

Case 150: Aged 40. Was asked to see a case of a woman suffering from a tumour, with a temperature of 104 deg. F. All the ear marks of sepsis. In addition to the small fibroid, I found the patient was pregnant. A uterine sound had been passed for some reason and have no doubt where the infection came from. Dilated cervix and removed the contents of uterus. The patient died in a few days from septicaemia.

Sounds should not be used in a doctor's office for diagnosis for this very reason, as well as others that need not be referred to.

Case 170: Patient aged 35. Was asked in consultation to assist in

delivering a woman, with a fibroid complication. Patient had been in labour twelve hours. The abdomen was very large and with little uterine action. Gave an anaesthetic and used forceps. Owing to absence of uterine action, the child was too long in the passage and was still-born. Weighed 12 lbs. Had to deliver the placenta also, the uterus not contracting owing to the immense fibroid that ran up the side of the uterus to the fundus, sessile, and pressing into the body of the uterus. Much to my surprise the patient made a good recovery. The involution was very slow, could feel the uterus with its fibroid above the pelvic brim. Six weeks after patient was advised as to the danger she was in and a hysterectomy suggested. Her maternal feelings being very strong she again became pregnant, being willing to take the risk. When about three and a half months advanced she was taken with a sudden acute pain in abdominal region—rapid pulse, etc. An operation was performed at once, and we found the large fibroid had undergone red degeneration. The patient died a few hours after the operation.

Case 530: Aged 46. Housewife, suffering from a growth which appeared much larger at times, that is higher up in the abdomen. On examination found a large fibroid sub-peritoneal, and some smaller ones as well. The larger growth was freely moveable and this would come above the brim of the pelvis at the time she felt it larger. She was in fairly good health otherwise. Had two children before she was thirty years of age. Free menses, but not sufficient to cause anaemia. Was always able to attend to her household affairs, and with the exception of the growth of which she was conscious would not have consulted a doctor. Owing to the size of the growth I advised its removal on account of complications that might occur.

Hysterectomy-subtotal was performed and she made a good recovery.

End-result: Six years afterwards in perfect health.

Section of the growth showed myomatous degeneration.

(3) *By Causing Pressure.* Fibroids growing beneath the folds of the broad ligament are especially dangerous as they may compress the pelvic structure against the unyielding bony pelvis. Even small fibroids in this situation may produce serious pressure. The bladder, urethra, ureters and rectum are the structures most exposed. Retention of urine is frequently the first symptom these patients complain of. These intra ligamentary growths frequently displace the ureter upwards, so that it overrides the growth.

Compression of the rectum may occur causing distention of the large bowel, chronic constipation and difficult defecation. Auto-intoxication and anaemia from the absorption of matter from the bowel is a common result.

Case No. 673: Aged 40—widow—complaining for the past four years of constipation, backaches, difficulty in passing urine at times, abdominal distension, headaches and general malaise. Menses irregular coming on at any time, sometimes quite free. The backache was the most prominent symptom. Marked toxæmia with severe headaches. Hard tumour felt at lower part of abdomen, which was the cause of consulting a surgeon. Had one child and many miscarriages. Diagnosis: Fibroid or intraligamentary cyst. At operation, found a large fibroid, having undergone myxomatous degeneration, pushing up the left broad ligament and ureter; also some small superitoneal fibroids over the fundus of the uterus. After splitting the peritoneum over the surface of the growth and while enucleating the tumour it burst, and broken down debris gushed out over the field of operation. It was difficult to tell the ureter from the surrounding shreds of tissue, and unfortunately the ureter was cut. Both ends were picked up and proceeded with the enucleation. After removal of the uterus and tumour the ureter was sutured, the upper end introduced into the lower and fastened with fine silk sutures. The patient made a good recovery without any urinary complications.

End-result: Two years afterwards the patient is in perfect health.

I look upon the operation of broad ligament cyst as one of the most difficult in surgery on account of the depth of the tumour, the misplaced anatomy, and usually, the broken down condition of the tumour.

Case 165: Aged 39, Multipara. Was called to relieve suppression of urine. Patient was in eighth month of pregnancy and had not passed urine for twenty-four hours, bladder could be felt above the umbilicus. Tried to pass a soft rubber catheter, but could not. On making a digital examination found a hard mass pressing against the pubic arch and compressing the urethra. I concluded it was a fibroid, and with some pressure upwards forced the growth above the pubic bone, when I was able to catheterize the patient. The patient went on to full term and was able to deliver the child with little trouble, as I was able to keep the tumour, which must have had a pedicle, above the pelvic brim. As the mass did not give rise to any trouble I did not advise an operation. She was under observation for the following two years, after which she moved to another country and have not heard from her since.

(4) *By Complicating Labour, Pregnancy or the Puerpera.* Fibroids are much more common in married women than in those who live single lives. Two-thirds of married women with fibroids causing symptoms are sterile. The sub-peritoneal variety is no bar to conception, however large it may be, as long as the Fallopian tubes are not displaced so that ova cannot enter them. The intra-ligamentary type is the most dangerous for the pregnant woman.

Case 560: Saw a patient aged 38, Jan., 1913. Had one living child and many miscarriages, profuse menses, did not gain strength between menses. Invalided most of the time. Examination showed a fairly large fibroid. Uterus was not very moveable and suspected tubal disease as a complication. Advised operation, which patient objected to. Again consulted me in March, 1916. Patient had during the past year been practically bedridden, with attacks of peritonitis and haemorrhages. Her physician advised her to submit to an operation also. Examination showed the tumour was much larger and very tender. Patient had lost weight. Red cells 3,200,000, and white increased to 12,000. The case was a grave one and I concluded some degeneration had taken place. On opening the abdomen the uterus had many adhesions to the peritoneum which were not hard to separate. The fibroid was under the broad ligament, which was spilt and the cyst was enucleated. It had broken down and had to be sponged out. Behind the uterus, down in Douglas' pouch another mass was found and upon opening it, turned out to be a suppurating mass of debris and bones of foetus of about four and one-half months. The bones were on the top of rectum and ulcerating through. Taking off the pressure and picking up the bones carefully with forceps, some foecal matter came through into the wound. After removal of bones and debris the bowels were carefully mended. The patient recovered well, and was doing nicely, with the exception of the pulse which was running as high as 100 before the operation and did not improve. No rise of temperature, bowels moved on the fourth day, and daily afterwards. No distension. Patient could not take any nourishment. The pulse became more rapid and weaker, and failed on the eighth day after operation. I cannot show you the tumour as it only had the capsule, the contents very fluid. The patient was toxic and had secondary anaemia.

How long the ectopic was there and when it commenced to macerate is a question. Could it have been there in 1913?

Diseased Fallopian tubes are often found in association with fibroids. Noble in 290 cases found as high as 13%.

You may be certain of a fibroid, but not always that there is no other disease.

5. *By Giving Rise to Mistakes in Diagnosis:* Case 250: Single. Aged 34—short and very stout. Florid complexion. Previously healthy. With history during past six or eight months of noting swelling in lower part of abdomen, menses always regular, quite free, lasting six days until present illness. Since illness quite free and irregular. Bowels very constipated. Lower abdomen very tender. Nausea and headaches, running temperature for past two weeks, pulse 120. Examination shows a very tender mass in centre of abdomen, above pelvic brim. Tenderness

extending to either groin. Vaginal examination shows large mass, partly solid but felt more like a pregnant uterus and told her physician. He said it was absolutely impossible as the girl was like Caesar's wife, beyond suspicion. I agreed to an exploratory incision, and on opening the abdomen a large quantity of fluid was found, with many adhesions about the uterus. The uterus was soft, very reddish in colour, and felt like pregnancy.

The girl was in a desperate condition, and as there was something very decidedly wrong I decided hurriedly to do a hysterectomy. The patient's temperature came down to normal, but the pulse ran as high as 140 to 160 for four days after operation. After this she rapidly convalesced and two years after was enjoying perfect health.

Her physician insisted upon it being a fibroid. The case turned out, as you will see, one of placenta previa. The case was septic, and perhaps after all we did the proper thing.

Case 650. Widow. Aged 79. Suffering from arteriosclerosis and dementia. Constipation. A large and distended abdomen. Examination shows a large nodular subperitoneal, moveable fibroid. Patient for family never aware of its presence as patient had always been healthy and active. Mother of two children, no miscarriage. As the tumour did give rise to symptoms interfering with her health, it was left alone. Patient died in two years at age of 81, from other causes.

It is true that the majority of fibroids require no treatment, and give rise to no inconvenience.

It is equally true that a large number of women lose their lives every year because of their fibroids, and many more invalids are a nuisance and burden to their friends for a similar reason.

The early removal of these tumours before the patient is handicapped by their ill effect will diminish the number of deaths, and amount of illness and misery, due in many cases to their ineffective treatment.

We have the choice of three operations, and each case must depend upon a number of circumstances and facts directly relating to the individual, as to the particular operation suitable.

(1) Removal of both ovaries, without disturbing the growth has met with some success, but this was before the present technique of hysterectomy was perfected. The removal of ovaries for fibroid tumour possesses an historical, but no longer a practical interest.

(2) Abdominal myomectomy is suitable when the number of growths is limited and the patient is anxious to bear children if she is willing to take the additional risk.

(3) Supra vaginal hysterectomy or amputation is the operation of choice, as it removes the chances of future complication and has a lower mortality.

CURRENT MEDICAL LITERATURE

AN OLD YPRES SURGEON.

Of Ypres it may now almost be said *etiam periére ruinae*. Yet but lately it was a prosperous city full of interest for antiquarians and lovers of art. In the fourteenth century there was no country more advanced than Flanders in civilization and none in which arts and industries were in a more flourishing state. How successfully surgery was cultivated is shown by a treatise written by Maitre Jelian Yperman who was born at Ypres in the last quarter of the thirteenth century. The records of the city show that he was granted a subsidy out of the public funds to enable him to study surgery. For that purpose he went to Paris, where he worked under the famous surgeon Lanfranchi, driven by stress of politics from Milan. In 1303 or 1304 he returned to Ypres and was immediately appointed surgeon to the Belle Hospital. In 1325, when the citizens of Bruges went to war with the Count of Flanders, Yperman was appointed surgeon to the Ypres contingent. The manuscript of his work, of which there are only two copies in existence—one of them in the library of St. John's College, Cambridge—is written in old Flemish and is illustrated by very rough drawings, mostly of needles, knives, forceps, chisels for operations on bones, and other instruments. In laying down rules for the stitching of wounds he shows himself familiar with the practice of secondary suture after freshening the edges. He has much to say about the stoppage of bleeding. Among the methods indicated are compression and the action of cold and heat; when these fail recourse must be had to ligature or torsion of the bleeding vessel. Trephining is described in detail; Yperman preferred the gouge, but also used the chisel and mallet. He recommends that when hernia cerebri occurs, a small plate of lead or thin wood should be placed over the opening in the skull after reduction of the hernia. A long chapter is devoted to sinuses of the limbs, which are said to be due to the presence of fragments of necrosed bone; the clinical course and the operative treatment are clearly described. Of wounds of the intestine, he says that their gravity differs according as it is the large or small gut that is injured. If it is the small intestine the wound is mortal, for the escape of pus and faeces into the abdomen inevitably produces complications. In a wound of the large intestine, on the other hand, there is hope of recovery. If the wound is long it should be stitched, the sutures being left hanging out. Care should be taken to reduce the herniated intestine, and stress is laid on the necessity for keeping the abdominal wound open till the sutures come away. If any loops of intestine escape and there

be any difficulty in reducing them the wound should be enlarged; "but," says our author, "do not forget to keep the intestine warm with hot wine." Yperman's work throughout bears the stamp of independent observation. He based his teaching on experience, and in this respect this forgotten treatise is far in advance of the majority of medical writings of a much later date. The modern reader can scarcely fail to be struck by the clinical insight, good sense, and practical wisdom of the old Flemish surgeon. Like Mondeville, Clowes, and the old surgical writers generally, he was fierce in his denunciation of the unqualified or "lay" practitioner. In regard to fees he held that the rich should be made to pay well, while the poor should be treated as friends. The date of Yperman's death is unknown, but there is no mention of his name in the archives of Ypres after 1329.—*Brit. Med. Jour.*

AN EXPERIENCE WITH EPIDEMIC CEREBROSPINAL MENINGITIS.

A. Azalbert (*Bulletin de l'Académie de médecine*, November 12, 1916) reports on twelve cases recently witnessed simultaneously in soldiers. Stress is laid on lumbar puncture as a diagnostic procedure, the cerebrospinal fluid losing its customary limpidity and always issuing under high tension. Examination of this fluid showed the meningococcus in ten cases, a staphylococcus in one, and undetermined cocci and rods in the twelfth. Two cases were clinically misleading, the one being mistaken on the first day for measles and the other for acute tonsillo-pharyngeal inflammation; neither of these had meningeal symptoms at first. Azalbert advises the use of lumbar puncture in doubtful cases in times of epidemic. The disease did not seem especially contagious, none of the men in the neighbouring beds or comrades of the patients contracting the disease; nor did any of the orderlies acquire it. In the treatment, the ten c. c. doses of antimeningitis serum were soon increased to twenty, thirty, and forty c. c., apparently with improved results. The serum seemed to do some good even in the two cases in which the meningococci had not been found. One patient, moribund when admitted, died in a few hours. The remaining eleven recovered, seven completely, one with residual convergent strabismus, two with unilateral deafness, and one with bilateral deafness and disturbances of equilibration.—*N. Y. Med. Jour.*

THE USE AND ABUSE OF PITUITRIN.

A. J. Skeel (*Ohio State Journal of Medicine*, December, 1916) states that pituitrin has two distinct fields of usefulness in obstetrics: 1. To

terminate the second stage of labour in cases where no reason exists for delay except insufficient uterine activity and provided the head has reached the pelvic floor. This includes the delivery of the second child in twin labours. 2. To limit the bleeding in cases of marginal placenta praevia, and in caesarean section. Its possibilities for harm may be summarized as follows: 1. Rupture of the uterus if obstruction of any nature exists. 2. Laceration of the cervix when used before complete dilatation. 3. Laceration of the perineum when precipitate labour is caused by a full dose. 4. Occasionally its use results in tetanic uterine contractions somewhat resembling that produced by ergot, with consequent asphyxiation of the child. Before pituitrin should be used the following conditions should be fulfilled: 1. Complete cervical dilatation. 2. The membranes must be ruptured. 3. The presentation must be longitudinal. 4. There should be no malpresentation. 5. There must be no disproportion. 6. The presenting part must be completely engaged. It is a good plan to use pituitrin in fractional doses, 0.33 to 0.5 c. c., and repeat when the effect wears off. This reduces the risk of uncontrollable action. If pituitrin causes excessive pain either chloroform or ether should be administered. It has been used as a galactagogue and as a substitute for the catheter in post partum urinary retention.—*N. Y. Med. Jour.*

SUNLIGHT AND TUBERCULOSIS.

It is undoubtedly true that physicians do not pay deserved attention to sunlight as a therapeutic agent. Its disinfecting properties and its vitalizing activity are theoretically recognized, but advantage is not sufficiently taken of them in actual practice. With the increasing role assumed by sunlight in the treatment of tuberculosis, it is worth while for the general practitioner to take to heart the lesson to be learned. In nonpulmonary tuberculosis particularly has heliotherapy won a richly deserved position as a powerful remedial agent.

Among a number of communications recently on this topic is one of practical interest by C. F. Gardiner (*Interstate Medical Journal*, July, 1916), describing the use of sunlight in Colorado, chiefly in the treatment of tuberculosis. He points out the advantage of a fairly high altitude such as 5,000 to 6,000 feet, because the actinic rays are not absorbed by the denser and more humid air of lower elevations. A large proportion of clear sunny days is also a desideratum. Gardiner states that the heat rays serve their therapeutic function by bronzing the skin, in this process causing first a superficial congestion with definite nervous and circulatory reflexes which affect the metabolism and benefit the entire body. The white skin reflects the chemical or actinic rays, but after tanning or

bronzing by the heat rays, the actinic rays are absorbed and have an additional beneficial effect on the tissues. It may be said that opinion differs as to how these various elements of sunlight act and the subject is a fertile field for investigation; but it is abundantly demonstrated that good clinical results are obtained.

Gardiner believes that the brilliant results obtained by the use of sunlight in surgical tuberculosis should not obscure the possibility of securing benefit also in pulmonary tuberculosis, although in the presence of fever especially the utmost caution is requisite. The cases must be selected, carefully watched, and the régime long continued and carefully graduated. He describes cases of pulmonary tuberculosis which under such controlled conditions have experienced decided benefit.

With the progress of exact therapeutic knowledge, sunlight is being found of increasing importance in medicine, and the sun is to be recognized not only as a tremendous source of potential physical energy, but also as a tremendous potential source of health. The physician must make this potential source actual.—*N. Y. Med. Jour.*

THE TREATMENT OF TRENCH FEET.

A. Scott Gillett, M.R.C.S., L.R.C.P., Temporary Captain, R.A.M.C., writing in the *British Medical Journal* says: Amongst the mass of literature upon the subject of trench feet that has appeared within the last eighteen months I can find little, if any, stress laid upon two points which, in the experience gained by treating 1,018 cases, appear to be of vital importance to successful treatment

For the sake of clearness the cases were divided, as far as was clinically possible, into two main classes:

(a) Those of mild and medium degree, characterized to a greater or lesser extent by anaesthesia, oedema, and blistering.

(b) Those of a severe type, with actual destruction of tissue, and perhaps gangrene, generally of the dry, but sometimes of the moist variety.

Taking into consideration the unavoidable overlapping of the two classes, the number of the first class was, roughly, 850 cases.

In over 800 of these hyperidrosis was most marked, very distressing to the patient, and interfered considerably with success unless great attention was paid to it. The majority of these cases were first seen at dates varying from two to fourteen days after the attack.

In nearly every case the limbs were wrapped in a thick layer of cotton-wool, with a fairly tight bandage over it, the bandage, of course, being started and finally fixed round the ankle. Upon removal, the

part was invariably sweating and often odorous. It was noted that in a few cases where there was no wool used, the course of the case was undoubtedly better and recovery was much more rapid. As a result, most of the cases were treated upon the lines of the following routine, individual exceptions being treated as circumstances allowed and common sense demanded.

1. The part is covered with one thin layer of gauze, arranged, if possible, so that it is in the form of a tent over the part, rather than resting upon it. No wool whatever is applied. Dr. Ramsay Hunt, in this connexion, says, "they are then loosely covered with wool or left exposed;" and certainly upon the experience gained in treating this series of cases, there seems no doubt that the latter alternative is infinitely preferable, and yields better results. The absence of a bandage fixed round the ankle tends also to reduce congestion.

2. The part is left exposed to the air, night and day, every opportunity being given for what sun there is to have free access to the part during the day. The use and value of a sun bath cannot, I think, be overestimated.

3. The foot is powdered three times a day with some antiseptic powder, such as boric acid, iodoform, a combination of the two, or borsal (equal parts of boric and salicylic acid). The cases seemed to do best with the borsal, as this counteracted the hyperhidrosis most effectively.

4. If these measures failed after six or seven days' trial, the feet were, in addition, sponged with a weak formalin solution (1 in 1,000) once a day, and this was usually effective.

5. The foot was elevated, all pressure of bedclothes upon the leg below the knee being guarded against by the use of a cradle.

White has pointed out the value of calcium lactate in hyperhidrosis and other skin diseases, and it seems to be a very useful adjunct in the treatment of the sweating in cases of this kind. I am inclined to think that the best results are obtained by using fairly large doses (5ss. to 5j) at intervals of four or five days, rather than smaller doses more frequently.

Thus it was found that, if great attention was paid to keeping the feet dry, results were excellent and fairly quick. It seemed also to minimize the pain, which is so distressing a symptom, and upon these lines the use of any form of fluid for the relief of pain, or any other object, seems to be contraindicated. It was found that if cocaine, menthol, or anesthesin were added to the dusting powder, a considerable improvement in this direction was obtained.

In dealing with the severe type, the same routine was performed in every particular, with good results. The whole secret of success being

apparently, to combat the sweating and keep the foot dry and warm.

The consideration of the worst cases at once brings us face to face with the question of amputation. Nearly every one who has had experience of these cases will admit that in those in which gangrene of the dry variety supervenes there is absolutely no justification for anything approaching an early operation. All that need be done is the trimming of stumps after the line of demarcation has formed and sloughs separated.

If more stress were laid on this there would not be half the number of men left with amputated limbs and toes. The only cases in this series which needed immediate amputation were those in which moist gangrene was present (these numbered thirty-three), and only then should it be performed if delay should imperil the life of the patient on account of the concurrent toxæmia.

Many, with patience and continued efforts to keep dry, will be saved from amputation, and a final trimming only be necessary.—*British Med. Jour.*

A CLINICAL STUDY IN ANAEROBIC WOUND INFECTION.

At a meeting of the surgical section of the Royal Society of Medicine held on December 14th, Mr. McAdam Eccles being in the chair, Miss Ivens, M.S., *Médecin-chef, Hôpital auxiliaire 301*, described the results of a clinical study of anaërobic wound infection with an analysis of 107 cases of gas gangrene. The paper was based on 464 cases of gas infection, of which 107 were clinically gas gangrene, observed during two years' work in a French military hospital of 400 beds receiving its wounded directly from the Somme through an evacuating station where the most urgent cases were taken from the train. Difficulties of minute investigation were increased by the large numbers coming in together after an attack. Attention was drawn to the importance of complete bacteriological study, and the careful examination of the x-ray plates, which, in the majority of cases, showed the situation of gas bubbles or streaks according to the species of microbe present, and were extremely valuable aids in a decision as to the form of treatment required. Factors of importance in the production of gas gangrene were:

1. The proximity to contaminated soil. Wounds of the lower limb showed a mortality three times as great as those of the upper, though wounds of the upper were more frequent.
2. Shell wounds were six times as frequent in gas gangrene as in ordinary infected wounds.
3. The presence of an infected "wad" of "capote" kept up infection.
4. The interval between the wound and the first surgical interven-

tion; insignificant wounds might cause fatal results if untreated and severely infected.

5. Early treatment was most important in the prevention of gas gangrene.

6. Vascular lesions were an important factor when due to injury; as a remedial measure, such as ligature of great vessels, they were not important; 22 cases with vascular lesions were followed by gangrene in six only.

7. Sixty per cent. of gas infected cases had fractures, and 71 per cent. of those of gas gangrene.

8. Wounds of the calf, trunk, or hip joint were specially dangerous.

9. Tissue injury had an important influence. Gas abscesses were frequently seen in gas infections at the site of subcutaneous injections or near simple fractures in the same case.

10. Intramuscular tension from within or without was a potent aid in the production of gangrene.

11. Joint injuries occurred in 13 per cent. of gas infections and in 20 per cent. of gas gangrene. They increased the gravity of cases, and damaged joints were difficult to immobilize without pressure.

The flora of gas gangrene was usually multiple: *B. perfringens* was present in nearly every case, *B. sporogenes* in 41 cases, *vibron septique* in 6 cases (several fatal); *B. histolyticus*, *B. hibler ix*, and *B. oedematiens* were all reported, but less frequently. Streptococci of a virulent type were present in 59 cases, and added to the gravity of the infection., Tetanus occurred in 15 cases, and was demonstrated bacteriologically in 7. Marked and latent forms of tetanus were described. Intrathecal administration of serum c.c.m. at a dose, together with subcutaneous injections up to 30 or 40 c.c.m. a day, proved successful.

Seven clinical forms of gas gangrene were noted:

1. Classic form (Weinberg).
2. Toxic or oedematous type.
3. Mixed forms.
4. Local gas abscess.
5. Superficial and deep-seated gas phlegmon.
6. Chronic and latent infections.
7. Gas septicaemia or pyaemia.

Of 464 cases of gas infection 42 were fatal, 25 dying from gas gangrene, 4 with tetanus, and the remainder with severe fractures, brain or abdominal injuries.

Amputation was considered necessary in advanced cases of gangrene, and performed 65 times, with 48 recoveries, by the open method with lateral incisions. When gangrene was limited to groups of muscles

or joints, excision was performed—41 times, with 33 recoveries. Hypertonic salt treatment alone was found to be unsuccessful, but combined with 2½ per cent. carbolic acid had given good results. Iodine vaccine therapy was tried, and appeared to be most successful when added streptococcal infection was present. Other methods used, such as continuous irrigation with eusol, Carrel's solution, or normal saline, apparently gave the same results. Ten cases of very severe gas gangrene had also been treated by antiserums for *perfringens*, *oedematiens*, and *vibron septique*, kindly supplied by Dr. Weinberg. In five cases (one being a septicaemia with triple anaërobic infection) the results had been successful. The fatal cases were already septicaemic before serum was given. There was distinct evidence that its curative use might be advantageous, and probably its prophylactic use even more valuable.—*Brit. Med. Jour.*

PERSONAL AND NEWS ITEMS

The National Committee of the United States for the Prevention of Blindness, is doing excellent work by the distribution of useful information. The committee has also been instrumental in introducing useful laws, and inducing some places to engage a nurse to take this work in hand.

The Department of the Provincial Secretary has issued a valuable pamphlet prepared by the Provincial Board of Health of Ontario on the antitoxines and vaccines sent out by the Board of Health.

Major R. D. Rudolf of Toronto, who was home for some time, has again returned to his army medical duties.

We are glad to note that Dr. George D. Porter, of Toronto, is in charge of the laboratory of the Military Hospital on Gerrard Street, Toronto.

Capt. Dr. Charles Temple, of Toronto, is attached to Moore Barracks, at Folkestone, and will remain there for some time.

Capt. Dr. A. H. Taylor, Victoria, has been awarded the military cross for distinguished bravery on the firing line.

Dr. George Armstrong, of Montreal, with rank of Lt.-Col., is now consulting surgeon in the C. E. F. in London, England.

Dr. H. R. Smith, of Toronto, and medical officer to King's Own Royal Lancasters, was severely wounded last December.

Dr. Walter Wright, of Toronto, has gone to England to do special eye work in the C.A.M.C.

Dr. R. W. Young, of Oshawa, went overseas when the war broke

out and was engaged for a long time at hospital work in Malta, has recently been on a transport running between Alexandra and Salonica.

Dr. Harry Morrell, of Regina, who has been doing sanitary work in France for two years, was home on a short leave of absence, but was recalled for duty.

Dr. C. P. Stammer, a native of Toronto, but who practised in Smiths' Falls, has returned home on sick leave. He saw service in England, France, Malta, Egypt and Salonica.

Dr. Charles Stuart Wyne, who graduated from Toronto in 1914, has been awarded the military cross for attending the wounded in the open all night.

Capt. Dr. Leeming Carr, son of Dr. Leeming Carr of Hamilton, has won the military cross for bravery in leading the stretcher bearers under heavy fire, and giving aid to wounded in the open field.

The law which has just been enacted in Victoria, Australia, has made some very important advances in the treatment and care of venereal diseases. All hospitals receiving any public grant must provide free treatment for these diseases.

From an exhaustive study of life insurance risks by Mr. Arthur Hunter, the actuary, it appears that cancer is not hereditary.

Sir Frederic Eve, F.R.C.S., a noted London surgeon died on 15th December last, at the age of 63.

Dr. Philip S. Krainka some time ago severed his connection with Interstate Medical Journal, and announces that in February he will issue a journal called Medicine and Surgery.

The Ontario Health Officers' Association will meet in Toronto, on 29th and 30th of May, 1917.

It is understood that the Government of Saskatchewan is looking favorably upon the suggestion of supplying medical attendance on out-lying districts where doctors are far apart, and where the population is too sparse to support a practitioner. This looks like a sensible movement.

The Jefferson Medical College, Philadelphia, has received from Miss Anna J. Magee of Philadelphia the sum of \$150,000 as an endowment for the chair of practical medicine and clinical medicine in the college. The present incumbent is Prof. Thomas McCrae, formerly of Johns Hopkins University.

Dr. Thomas Barr, of Glasgow, died recently at the age of 71. He had long been connected with the Glasgow Hospital for disease of Ear, Nose and Throat.

Mr. Paul Swain, one of the best known surgeons of the West of England, died on November 30th in his 83rd year. He was born at Devonport, where his father was a successful practitioner, and studied

medicine at King's College. In 1855 he served as a dresser in H.M.S. Exmouth in the Baltic during the Crimean war. He held the offices of assistant house-surgeon and house-surgeon at King's College Hospital, and took the diplomas of M.R.C.S. in 1857 and L.S.A. in 1858. He became F.R.C.S. in 1867. He settled in Plymouth, where he soon gained more than local fame as a surgeon. He was for many years surgeon to the Royal Albert Hospital, Devonport, and for a long time consulting surgeon to the South Devon and East Cornwall Hospital. In 1865 he was awarded the Jacksonian Prize for an essay on diseased conditions of the knee joint. He was also the author of *Surgical Emergencies*, and a number of other works.

The directors of the Manhattan Eye, Ear and Throat Hospital announce that there will shortly be constructed a six-story stone extension to the present hospital building on East Sixty-fourth Street, to cost \$350,000, and to be used as a nurses' home and administrative building.

The Herter lectures under the auspices of the Faculty of Bellevue Hospital Medical College, were delivered during January by Prof. A. B. Macallum of Toronto University.

All physicians of the United States Public Health Service have recently been ordered not to dispense any heroin for any purpose hereafter, and to return to headquarters any quantities of the drug they may have on hand. This action has been taken in the hope of counteracting the increasing use of heroin throughout the country. It is pointed out that less dangerous agents possess as powerful medical qualities, and that the sooner physicians realize this the easier it will be to curb the constant increase in the number of habitual heroin users.

It is thought likely that Lieut.-Col. James Roberts, formerly in command of the Toronto General Hospital unit at Salonika, will be appointed commandant of the Duchess of Connaught's Canadian Hospital at Taplow.

The Canadian Government has had made a new form of car that embodies every comfort for invalids who have to travel. They are called hospital cars.

Winnipeg is not to be the home of a 1,000-bed hospital for the returned soldiers. The steel works building in Fort William has been offered to the Military Hospitals Commissioned free of charge and has already been inspected and pronounced suitable for work.

Dr. John Noble, a member of the Toronto Board of Education, was unanimously elected chairman of the Advisory Industrial Committee of the Board.

Capt. Dr. Donald T. Fraser, son of the late Prof. W. H. Fraser,

arrived home on leave of absence from France a short time after his father's death.

The Circuit Court of Appeals for the Third Judicial Circuit of the United States has upheld to a decree of forfeiture of a shipment of "patent medicine" on the ground that the labels contained false and fraudulent statements regarding the curative effect of the medicine. The suit was brought under the Sherley amendment to the United States pure food and drugs law. Judge Buffington, in the opinion, said that the purpose of the Sherley amendment was to "punish false and fraudulent statements regarding the curative or therapeutic effect" of drugs shipped in interstate commerce. The opinion is published in the December 8th issue of Public Health Reports.

The New England Association of Boards of Pharmacy, in session in Boston the first week of December, adopted resolutions announcing a determination to suppress illegal sales of drugs in stores within its jurisdiction and to close stores that refused to comply with the State laws and regulations.

Dr. Amyot, of the University of Toronto, who has been mentioned in despatches, is now sanitary adviser of the Canadian forces in England. He has been in command of the sanitation of a section, division and then an army corps besides of the 2nd British Army. He has just been promoted to his new position.

Colonel Herbert Bruce has accepted from the Royal Army Medical Service a very important appointment in France, where he will be consulting surgeon to twelve large British hospitals. Canadians here are pleased at this fine tribute to Colonel Bruce's ability as surgeon. He is expected to stay on till the end of the war, though he will return on short furlough.

Dr. J. B. Brown, of Toronto, who has been serving on the Mesopotamian campaign, returned home recently. He stated that the temperature sometimes rose to 150 F.

On 21st December last there occurred a fire in the Asylum of St. Ferdinando, Halifax, in the county of Megantic, Quebec, which caused the death of forty-five of the insane inmates and one sister.

The Gutta Percha and Rubber Company of Toronto has donated to the Toronto General Hospital, through its president, Mr. Candee, the sum of \$5,000 to endow a bed in memory of Capt. Trumbull Warren who fell at Ypres, 20th April, 1915.

Surgeon G. G. Membery, M.R.C.S., son of Mr. W. R. Membery, Adolphustown, Ontario, has been promoted from surgeon on H.M.S. Cochrane of the Second Cruiser Squadron to that of Fleet Surgeon of the Tenth Cruiser Squadron stationed on H.M. flagship Hilderbrand.

This is quite an important position for a Canadian. He was educated in Toronto, obtaining his degree from old Trinity College, then on Gerrard Street east.

The Military Hospitals Commission announces the preparation of three more hospitals to take care of wounded men arriving from overseas. They will accommodate 1,150 patients, in addition to 1,610 already provided for. The new hospitals are at Halifax, capacity 450; St. John, capacity 500, and Toronto 200.

On the eve of the departure of Dr. and Mrs. Gilmour from the Reformatory at Guelph, a presentation was made by the staff of the institution and also the Provincial Custodian staff at Mimico. To the retiring warden, who becomes Inspector of Paroled Prisoners, were given a handsome gold watch and fountain pen, and to Mrs. Gilmour a gold watch and travelling companion.

The Sunshine Circle has disbanded. Before doing so it handed over the motor car, which it had purchased, to the Hospital for Tubercular Soldiers at Freeport. An extra rug and foot warmers are supplied.

An ophthalmological service has been added to the other departments of Bellevue Hospital, New York. It is located in the new surgical pavilion but is entirely distinct from the rest of the hospital having its own operating, examining and dressing rooms, a staff of attending surgeons, special internes and nurses; its capacity for the present will be fifty beds. The service is in charge of Dr. Charles H. May, attending surgeon, who will have as his principal assistants Drs. Julius Wolff and John M. Wheeler.

OBITUARY

WALTER BAYNE GEIKIE.

Dr. W. B. Geikie, so long known as Dean Geikie, died at his home in Toronto on 12th January, 1917, at the good age of nearly 87 years.

He was born in Edinburgh, May 8th, 1830, and was the son of Rev. Archibald Geikie, a Congregational minister, who came with his family to Canada in 1843 and first resided in Mooretown, near Sarnia. Rev. Archibald Geikie about 1850 became minister of the old Richmond Street Congregational Church (which afterward removed to Bond Street).

Dr. Geikie was licensed as a medical practitioner by the Medical Board of Upper Canada (1851), under Lord Elgin, Governor General, and held the degree of M.D. from Victoria University and Jefferson Col-

lege, Philadelphia. Other degrees were: C.M. (Victoria University), D.C.L. (Trinity University, 1889), LL.D. (Queen's University, 1907), L.R.C.P. (London), F.R.C.S., L.R.C.C.S. (Edinburgh).

A period of more than half a century (1856 to 1907) was spent in the work of medical education in Ontario. During the period, 1878 to 1903, he was dean of Trinity Medical College.

Dr. Geikie first practised his profession in Bond Head from 1851 to 1856. In 1856 he removed to Toronto (having been appointed a professor, filling two chairs, in Victoria College, where he was associated with the late Hon. (Dr.) John Rolph, then dean. This college was on Little Jarvis Street, in Yorkville.

In 1860, owing to ill-health induced by overwork in his college duties, he removed to Aurora. There he built up a large practice, and continued to lecture at Victoria College. In 1869 he finally returned to Toronto, having been appointed to the chair of medicine and clinical medicine at Victoria.

In 1870 Dr. Rolph, dean of the Medical Faculty of Victoria, resigned on a matter of principle and Dr. Geikie, in loyalty, also resigned.

In 1871 Dr. Geikie founded Trinity Medical School, a department of Trinity University. In 1878, the school having obtained a separate charter of incorporation, he became dean of Trinity Medical College. This position he retained until 1903, when the college was amalgamated with Toronto University, a step which he strongly opposed, and on its consummation retired from educational work: remaining, however, as examiner for Trinity University until 1907.

He was for many years on the active staff, and later on the consulting staff of Toronto General Hospital. He represented Trinity Medical College on the Council of the College of Physicians and Surgeons from 1877 to 1902, having been vice-president in 1882-83.

Dr. Geikie came of a family which has earned much distinction. A brother, Rev. J. Cunningham Geikie, was author of the well-known "Life of Christ." The late Rev. A. Constable Geikie, D.D., LL.D., of Bathurst, Australia, was also a brother. Sir Archibald Geikie, for some years Director-General of the British Geological Survey, and recently president of the Royal Society of Great Britain, is a first cousin; as was the late Professor James Geikie, dean of the Faculty of Science of Edinburgh University. An uncle, Walter Geikie, R.S.A., produced admirable etchings of Scottish life and character.

Dean Geikie married Frances M. Woodhouse, daughter of the late James Woodhouse, in 1854, and the family consists of Dr. Walter W. Geikie, Elmira; Dr. A. J. Geikie, Toronto, and Miss Ethel F. Geikie. The

late Mrs. Harold Jarvis was a daughter. One sister survives him, Mrs. M. G. Adam, who resides at Canaan Connecticut.

Active in benevolent work, he was president of the Toronto City Mission for twelve years, and treasurer in Canada of the Armenian Relief Fund in 1896-97. His association with the Upper Canada Bible Society of which he was vice-president, was especially notable, having extended over a period of sixty-five years. He was a member of the Presbyterian Hymnal Committee of 1897, and also of the present committee. He was a member of St. James' Square Presbyterian Church.

The funeral had been announced as private and there were no flowers by request. Members of the family and close friends acted as pall-bearers: Dr. Walter Geikie, Almira, Ont.; Dr. A. J. Geikie, Toronto; Prof. F. A. Jenneret, Toronto University; Dr. J. F. Uren, Mr. W. Douglas, Mr. Frank Brown and Mr. W. A. McLean.

Along the way of his educational experience he had from time to time many distinguished companions and co-workers: among them Dr. Rolph, Dr. Hodder, Dr. Aikins, Dr. Wright, Dr. Sangster and Dr. Fulton, all of whom have passed on before him. But though he was left almost alone as their survivor, he retained to the last an unimpaired interest in medical training in its higher and more humanitarian aspects, and he was still able, at the beginning of the present war, to regard as one of its compensating advantages to humanity the improvements it was sure to bring in the discoveries and inventions of which it was certain to be the occasion.

WILLIAM OLDRIGHT.

Dr. William Oldright died in Chicago, on 4th January, 1917, at the home of his daughter. He had been in poor health for some considerable time; but had hoped to be able to go to St. Kitts, West Indies, where he had a home by the sea. He was in his 75th year.

The death of Dr. Oldright removes one of the oldest graduates of the University of Toronto, to which, all his life, he was very deeply devoted. A clever linguist, he was for many years professor of Italian and Spanish in the University. Afterwards, following a brilliant career in medicine and surgery, he held the chair of hygiene and that of associate professor in clinical surgery until his retirement five years ago. He was long associated with St. Michael's Hospital in the capacity of head surgeon.

The late Dr. Oldright was the son of the late Major John Oldright, a British army officer, who was stationed at St. Kitts, West Indies, where the subject of this sketch was born.

Following the retirement of Major Oldright the family moved to Toronto. Dr. Oldright received his preliminary education at the Brantford Grammar School, and graduated in arts from the University of Toronto in 1863. In 1865 he took the degree of Bachelor of Medicine. He was a member of the Council of Ontario College of Physicians and Surgeons from 1869 to 1872, and Chairman of the Provincial Board of Health in 1882. He was a Senator in the governing body of the University for a lengthy period. He took a deep interest in the work of the Children's Aid Society.

Dr. Oldright was married to Sarah Ellen Durand, daughter of the late Charles Durand, barrister, of Toronto, who survives him, as well as two sons and five daughters. The sons are Dr. H. H. Oldright, in the West Indies, and Mr. Percival Oldright, Denver, Col. The daughters are Mrs. Luther Whittemore, Chicago; Mrs. Donald MacWilliam, St. Kitts, West Indies; Mrs. P. S. Blachford, Mrs. Leonard Wookey of Toronto, and Mrs. Stanley Wookey, Cochrane, Ont. One brother, John Oldright of Austin, Texas, also survives him. His grandson, Lieut. William Lawrence Whittemore, recently was awarded the Military Cross for bravery at the front.

The funeral services were conducted in Convocation Hall, where the body lay in state after its arrival from Chicago. The service was of a very simple character, as he was a member of the Christian Brethren.

Dr. R. A. Falconer, when informed of the late doctor's death, paid a tribute to him in the following words:

"Dr. Oldright was a very brilliant and an exceedingly gentle man. He was always delightful and pleasant, and I am sure a friend to all who knew him. Very devoted to the University, even after his retirement, he never missed a meeting of the Alumni. He was one of the earliest graduates in Arts."

JAMES H. COTTON.

Dr. J. H. Cotton died at his home in Toronto, on 9th January, 1917, at the age of 67. He had suffered from heart disease for considerable time.

The late Dr. Cotton had a record of over thirty years of service in Toronto. He was born in Garafraxa in 1849, and twenty-six years later graduated in medicine in the University of Toronto. In 1876 he obtained his diploma from the Royal College of Edinburgh. He opened a practice at Mount Forest and after a short while went to New York where he took a post graduate course in surgery. He came back to

Canada about thirty years ago and began to practice in Toronto. He devoted himself entirely to his profession until about two years ago when failing health compelled him to forego his activities.

He is survived by his widow, a daughter of the late John Christopher, of Ingersoll, two daughters, Mrs. A. W. Tubb, of Hamilton, and Miss Marguerite, at home, and one son, Dr. James H. Cotton, in Toronto.

For many years, Dr. J. H. Cotton had a large surgical practice, and at different times was identified with several of Toronto's public institutions.

CLAUDE LAMONT WHEELER.

Dr. Claude Lamont Wheeler, of New York, one of the editors of the New York Medical Journal, died at his home in Flatbush, Brooklyn, from pneumonia, on December 30, after a short illness. Dr. Wheeler was born in Montreal, Canada, March 5, 1864, and was graduated in arts from Laval University, Quebec, and in medicine from McGill University, Faculty of Medicine, Montreal, in 1889. After practising for a few years in Burlington, Vt., he went to New York, twenty-six years ago, and in 1902 became associated with the New York Medical Journal. In 1909, on the death of Dr. Frank P. Foster, he succeeded to the editorship, a position which he held, except for a brief interval, up to the time of his death. At one time Dr. Wheeler[#] was connected also in an editorial capacity with American Medicine. He was for some time on the staff of the Manhattan Eye, Ear, and Throat Hospital, and was a member of the Hospital Graduates Club, president of the Fendroph Club, and an ex-president of the British Schools and Universities Club. He was a nephew of Wm. Wheeler, former Governor of Rhode Island.

Dr. Wheeler is survived by a wife and daughter and a sister, Miss Annie Wheeler, of Montreal. The funeral service was held at his late residence, and interment was in the family vault in Montreal.

JOHN EDGAR KING.

Dr. John Edgar King, 740 Dovercourt Road, Toronto, died at his residence on 30th December last, after an illness of two years. The late Dr. King was born in Vaughan township, and took his medical degree from Old Trinity College. He practised in Thistletown, and about ten years ago came to Toronto. He was a member of the I. O. F. and of the Masons, and was also an attendant at Centennial Methodist Church. He is survived by his widow and two children.

JOHN HARKNESS.

Dr. Harkness, of Irena, Ontario, died last October, at his home. He graduated from McGill University in 1864.



BOOK REVIEWS

JELLETT'S GYNAECOLOGY.

A Practice of Gynaecology. By Henry Jellett, M.D., (Dub. Univ.), F.R.C.P.I., Master, Rotunda Hospital, Dublin; formerly King's Professor of Midwifery and Gynaecology, Dublin University; Gynaecologist and Obstetric Physician to Dr. Steevens' Hospital, Dublin; Extern Examiner in Midwifery and Gynaecology, Dublin University, Royal University of Ireland, and Victoria University, Manchester; Censor and Examiner in Midwifery and Gynaecology, Royal College of Physicians, Ireland. With 374 illustrations, many in colors, and 11 plates. Philadelphia; Lea & Febiger, 706 Sansom Street. Price, in cloth, \$6.00.

This volume is the outgrowth of the author's smaller work on gynaecology. This work is intended for practitioners, and is much fuller and more complete than its predecessor. We congratulate the author on the results of his labours. Dr. Jellett is a well known and tried writer, and the profession has now come to look with confidence upon his views and teachings. The whole field of gynaecology is well covered in this volume; and yet the work is not unduly large. This has been accomplished by the skill of the author both in the topics discussed and by his method of handling these. All prolixity is absent, and clearness, and brevity are the characteristics that one finds here. There is a very fine blending of conservatism and progressiveness; for all that is good in former books and methods are retained, while the author does not hesitate to enunciate new views and advance his own teachings whenever he thinks proper. The publishers, too, have done their part well. The paper is of fine quality, and the binding is good and attractive. The illustrations are numerous and beautiful, and assist the text greatly. We recommend this work and have every confidence that it will command a large sale and give entire satisfaction.

THE ORGANISM AS A WHOLE.

From a Physicochemical Viewpoint. By Jacques Loeb, M.D., Ph.D., Sc.D., Member of the Rockefeller Institute for Medical Research. With 51 illustrations. New York and London; G. P. Putnam's Sons. The Knickerbocker Press. Price, \$2.50.

This is a very closely reasoned and scientific work. The author has

expended much thought on its preparation, and a vast amount of research and study to accumulate the required material. He takes the side of the physicochemical school of thinkers, and regards all life and energy as the result of chemical changes. He discusses in this work such problems as the difference between living and dead matter, the origin of life, the chemical basis of genus and species, the specificity of fertilization, artificial parthenogenesis, the formation of an organism from an egg, regeneration, determination of sex, mendelian heredity, animal instincts, the influence of environment, evolution, and death and dissolution. This statement from the preface will set forth the trend of the book: "It is generally admitted that the individual physiological processes, such as digestion, metabolism, the production of heat or of electricity, are of a purely physicochemical character; and it is also conceded that the functions of individual organs, such as the eye or the ear, are to be analysed from the viewpoint of the physicist."

To answer the question of how the parts of the organism are so adapted to each other as to give rise to a harmonious whole, the author advances many ingenious arguments. There are positions, namely, the one of some guiding force or principle which directs the processes; and the other that the unity of the organism is found in the egg which contains the embryo.

The work is a careful exposition of the author's views on evolution along physicochemical lines. It is along this course of study and research that he attempts to prove life, death, growth, energy, heredity, and qualities. To take an example as to how the author works out this physicochemical theory let us look at what he says on environment. Here he discards the ordinary view of environment as the surroundings of the whole body; and reduces it to the environment of the cell; and here comes in the theory of the chemical processes that influence the growth, life and death of the organism.

We can speak in high terms of this work.

MEDICAL DISEASES OF THE WAR.

By Arthur F. Hurst, M.A., M.D., F.R.C.P., Temporary Major, R.A.M.C., Physician and Neurologist to Guy's Hospital; Neurologist to the 3rd Southern General Hospital; lately Member of the Medical Advisory Committee, Mediterranean Expeditionary Force, and Consulting Physician to the Salonica Army. London; Edward Arnold, 1917. Price, 6 shillings, net.

The topics discussed in this book are functional nervous troubles, dysentery of the various types, hepatitis and hepatic abscess, trench

fever, paratyphoid fever, epidemic jaundice, beri-beri, soldier's heart, war nephritis, and gas poisoning. Each one of these topics is carefully handled by one who has had much personal experience with the conditions discussed. The chapter on nervous disturbances is a most interesting one. The account of shell-shock will well repay a careful study. The author has many very excellent observations on the motor disorders of the soldier, such as convulsive symptoms, paralysis and contractures.

Under the heading of dysentery he speaks of four forms: the amebic, the bacillary, the flagellate, and the ciliate. The amebic form is treated by the subcutaneous or intra-venous administration of emetine, the bacillary form is treated by the use of anti-dysenteric serum. For the flagellate form turpentine, methylene blue, and beta-naphthol have been recommended. In the ciliate form thymol is best treatment.

There is in this book a very good account of trench fever. The author concludes that it is insect-borne, and as most of the soldiers are infested with lice this is the most likely cause of the spread of the disease. The blood corpuscles will convey the disease, but the serum will not. The disease may be contracted several times, and no specific treatment is known.

One turns with much interest to the subject of paratyphoid fever. Here the author shows that, though the bacilli resemble each other, and also that of typhoid fever, these organisms differ in their reactions to certain media and in their behaviour with specific immune sera that they must be regarded as distinct organisms. In the treatment of the disease the author lays stress on a generous diet, and the use of hexamine. The organism is found mainly in the gallbladder and the urinary organs; and on these hexamine is a valuable disinfectant..

The soldiers heart is treated of in an interesting manner. Three causes are given, namely, intoxication of bacterial origin, the excessive use of tobacco, or the over activity of the ductless glands from nerve influences. The second cause is over-exertion, and the third is the nervous factor. The treatment is to be found in removing the causes, and giving the soldier assurances that his heart will come all right.

The subject of war nephritis the suggestion is thrown out that it may bear some relationship to the use of meats and foods contained in tins. In many cases tin and lead have been found in the urine. The disease does not seem to be due to any great extent to exposure, and certainly not to the chlorination of drinking water.

This book can be recommended as both interesting and instructive.

CHICAGO CLINICS.

The Medical Clinics of Chicago, November, 1916, Volume 2, No. 3. Published by-monthly by W. B. Saunders and Company, Philadelphia and London. Price per year, \$8.00.

This number contains nine excellent clinical lectures on as many interesting topics. These are ulcer of the stomach and duodenum, infantile paralysis, anterior poliomyelitis, pernicious anaemia, eczema, Addison's syndrome, treatment of chronic colon pyelitis, polycystic kidneys, atypical gout, and spasm of the cardiac end of stomach. The number can be recommended as of high merit.

MISCELLANEOUS

SYDENHAM'S PORTRAIT.

In presenting the portrait of Thomas Sydenham, Dr. J. Ferguson, president of the academy, said that the subject of his remarks was born in 1624 and died in 1689, at the age of 65. He lived in the midst of a very brilliant constellation of men, such as Cromwell, the statesman; Milton, the poet; Newton, the world's greatest mathematician; Dr. John Loche, the founder of the British School of Experiential Philosophy; Glisson, remembered by his investigations on the liver; William Harvey, the father of physiology; and Richard Wiseman, the first great English surgeon.

Sydenham has been called the Hippocrates or father of British medicine. He adopted the clinical method in the study of disease. Like Bichat, an eminent French physician, he did not believe in going to books, when nature furnishes one with the original sources of information in the sick themselves. It is for this reason that Sydenham did not read many books, but we are told that he very thoroughly perused the Bible for his religion, Hippocrates for his medicine, Circero for his Latin, Bacon for his philosophy, and Cervante's Don Quixote for his humour.

Sydenham was distinguished above most men for three reasons: he was a noble type of citizen, he was a fearless soldier in the cause of liberty, and he was an ornament, for all time, to the medical profession. The Royalist trooper who destroyed Sydenham's home and murdered his mother, young Sydenham pursued throughout the country until he overtook him, and, in single combat, put the ruffian to death.

The portrait you see before you is one hundred and thirty-one years

old, and is a copper-plate reproduction of the painting by Mr. Lely, which has always been regarded as the best extant of Sydenham. As you view the portrait you are attracted by the fine brow, the sad but thoughtful eyes, the stoical yet kindly mouth, and the face which is a combination of Cromwilliam strength and Miltonic beauty. As we cast our eyes back over the two hundred and twenty-seven years that separate us from the death of Sydenham, and recall the man revealed by his portrait, the eulogy of Hamlet over his revered father may fittingly be voiced on this occasion :

See, what a grace is seated on his brow ;
Hyperion's curls ; the front of Jove himself ;
An eye of Mar's, to threaten and command ;
The station of the herald Mercury ;
A combination and a form indeed,
Where every god did seem to set his seal,
To give the world assurance of a man.

This portrait shall be one more addition to the lares et pinates that adorn the walls of our academy building ; and, as we see it, be reminded that still *ut aster inter asteres fulget.*

TWO STRENGTHS OF PITUITRIN.

As is well known to medical practitioners, Parke, Davis & Co. have for several years manufactured a standard pituitary extract under the name of "Pituitrin." The product is prepared from the posterior lobe of the pituitary gland, and has come into extensive use in the treatment of delayed parturition or uterine inertia. Being specifically intended for use in obstetrical work, this preparation will hereafter be designated, in label and literature, as Pituitrin "O" (Pituitrin obstetrical).

Announcement is now made of a second preparation of the pituitary gland, to be known as Pituitrin "S" (Pituitrin surgical). This product is approximately twice the strength of the former, and is indicated specifically in the treatment of post-operative intestinal paresis, vesical atony, hemorrhage and shock. Because of its exceptional potency it should not be used in obstetrical practice. In order that it may be readily distinguished from Pituitrin "O" (obstetrical), the carbon labels are printed with red letters on white paper.

Both Pituitrin "O" and Pituitrin "S" are physiologically tested for activity.

Pituitrin "O" is supplied in ampoules of 1 mil (1 Cc.) and $\frac{1}{2}$ mil ($\frac{1}{2}$ Cc.), respectively, and in bottles of $\frac{1}{2}$ ounce. Pituitrin "S" is supplied in ampoules of 1 mil (1 Cc.) only.