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MISSING

The Canada Lancet

VOL. LI.

TORONTO, MARCH, 1918

No. 7

EDITORIAL

CHIROPRACTIC.

This abomination of modern times is like all bad weeds, hard to uproot. It advocates are grossly ignorant of the true science of medicine; and, in proportion to their ignorance, are endowed with a boldness to advocate that which is false that would put Autolyceus to shame. There is no science in chiropractic unless it be that of humbugging the people and making some money by its practice. As a splendid example of what we are now stating we publish the following letter:

Los Angeles, Cal., February 11th, 1918.

"Dr. John Ferguson, M.A., M.D.,

"Dear Sir,—I have been reading your article, 'False Systems of Healing' No. 3." Having had eight years' experience with chiropractic, giving nearly 4,000 treatments per year, with no vacations and with no advertising; having made an extended study as a layman of the various systems of medicine, and also having had brains enough to make a success in life before I began to study chiropractic at 50 years of age, I claim to be well qualified to pass judgment upon your articles on the subject.

"I say this—that chiropractic is all that is claimed for it by its conservative advocates. That it is beyond comparison more successful than any system of drug treatment, allopathic, homeopathic or eclectic, and in the hands of competent practitioners very much more so than osteopathy. That many surgical operations are entirely needless. That many cases, hopelessly incurable by medicine or surgery, are brought back to health by chiropractic. That as a preventive of disease it is without a rival. That its foundation principles are absolutely correct and in no wise out of harmony with proven anatomy.

"In speaking of chiropractic we refer to its practice in the hands of competent men. Unfortunately it has been exploited by cheap men and schools and correspondence courses and large numbers of that kind of chiropractors have been sent out to misrepresent the science. But you

can say that of any system. That because of the brilliant success of many of its thoroughly competent practitioners it has been made the prey of cupidity and ignorance, but this has nothing to do with the thing itself.

"There could be nothing more absurd and false and foolish than the statements you make about it.

"A list of the 'incurable' and 'hopeless' cases which have been brought back to health in the more than 30,000 treatments the writer has given in eight years would weary you to read. Information at this point is at your disposal.

"You remember the story of the countryman who, seeing a giraffe for the first time, turned away saying, 'There ain't no such critter.' That is exactly your position regarding chiropractic. Why not investigate?

"Fraternally yours,

(Sgd.) N. W. PHILBROOK."

Now, for an expression of consummate antithesis to what is known to be really scientific, the foregoing could not be surpassed. In the first place, the number of treatments given does not qualify one to advance his views; for the more treatments on a wrong system, the less capable one becomes of judging properly. Our correspondent may be making a success out of chiropractic; but this does not prove that it is correct or sound, or doing good, any more than that many became followers of Brigham Young would prove the correctness of Mormonism with its vicious polygamy. Any one who adopts the teachings of chiropractic that at least 95 per cent. of all diseases owe their origin to some sort of displacement, or subluxation of the spine, is not capable of passing sound judgment upon medical science, with its branches of study such as anatomy, physiology, chemistry, bacteriology, obstetrics, surgery, medicine, treatment, etc., etc. The chiropractor is wedded to a false theory.

Then our correspondent goes on to state that chiropractic can accomplish more than other systems. We would expect him to say this; because the very fact that he is a chiropractor makes it impossible to think otherwise; for if he could think otherwise, he could not be a chiropractor. One that has true knowledge of the cause of a thunderstorm does not worship some mythical Indian spirit. If a chiropractor only knew enough to know that the system is false he would no longer advocate it. It may be that in some cases it is not knowledge, but honesty that is lacking. What a poor showing chiropractic would make with a case of plague, or diphtheria, or pneumonia, or a volvulus, or a depressed fracture of the skull, or retention of urine, or with perforated stomach, by a thrust on some vertebral bone that is thought to be out of place. The whole thing is a most dangerous form of teaching and practice. But

the limit of wild claim is reached when we are told that it is unrivalled as a means of preventing disease. It would be worse than folly to treat the spinal columns of the inhabitants living beside a marsh as the means of preventing ague or yellow fever, instead of getting rid of the mosquitos; or by twisting the necks and punching the backs of little children in the case of scarlet fever rather than the sane way of separating the sick from the well.

Then we are told about what it can do in the hands of competent persons; and also that chiropractic has been exploited by cheap men. No brilliant results can follow this method of treatment, for it is in the very nature of things impossible that such could be the case. It is entirely false that the spinal column is the cause of 95 per cent. of all diseases. It is also false that in the few cases where there is some displacement, or inflammatory deposit, or new formation, or disease of a bone, that the *chiropractic thrust* would effect a cure. There may be some persons who think there is something the matter with their backs, or who are told as much, or who are nervous subjects, who may be acted on mentally and declare they are better for the treatment, like the ignorant girl who said she was almost blind, and who, after being treated by a "healer", said she could now see almost as well as ever, though by proper tests there was no change in her range of vision. There are many people who can be easily imposed upon, and all such can secure their heart's desire in this direction by adopting chiropractic treatment.

As to the "incurable" and "hopeless" cases referred to, we would state that all systems put forth these claims. We have seen the advertisement for a patent medicine, and certificates that it cured locomotor ataxia, etc., etc. Now, this was a falsehood; but it sold the medicine to those who knew no better. So with any system. If a patient is told that he has a displacement in his spinal column, and that the same can be put into place by some sort of manipulation, he may believe this fully and think he has been cured of a serious trouble. Martin Luther once said that three-fourths of the people are waiting for some one to fool them, and Barnum remarked that if Luther was right, he was going after the three-fourths.

With regard to the story about the giraffe, we would remark that there *is* such a thing as *chiropractic*, and that it is much *more misshapen* than that long-necked animal. As Caliban was hideous in form, so chiropractic is a still more hideously deformed view of the conception of disease and its treatment.

To show that we are not too severe upon this travesty on treatment called chiropractic, we quote a few lines from a small pamphlet sent us by our correspondent. Here are the words: 1st, that the physical cause

of disease is, with very few exceptions, due to some form of vertebral subluxation, and 2nd, that this cause can be removed by trained and educated hands alone. These are in my opinion the greatest discovery of this or any other age."

These statements are absolutely incorrect, so far as the cause of disease is concerned, or its treatment. If our correspondent knows that they are incorrect he should come forward and acknowledge the fact. If he does not know that they are false we commend that he give the matter some study and go to some college where correct views are taught in order that, in the interests of common humanity, the scales may be removed from his eyes. Chiropractic as a system of healing has not a shadow of a leg to stand upon. One of the most wearisome tasks that has ever come our way is to read up chiropractic in order to refute it.

THE MEDICAL COMMISSIONER'S REPORT.

Mr. Justice F. B. Hodgins, the commissioner who was appointed by the Ontario Government to take evidence on the various forms of treatment of disease prevailing in Ontario, has reported. Justice Hodgins was most patient and painstaking, as every one must admit who had occasion to appear before him, no one being refused a hearing who sought such in a proper manner. The field to be covered was a very large one, as it embraced the regular medical profession, and such cults as Christian Science, osteopathy, chiropractic, and manotherapy. The status of nurses had also to be considered. In addition to all this the commissioner had to consider the relationship of the medical colleges and the College of Physicians and Surgeons, and here, again, what constituted a proper course of medical studies. It was expected his report would be a very important deliverance on the whole subject of medical education, and in this expectation no one has been disappointed. If the suggestions made by Mr. Justice Hodgins are acted upon it would improve the status of medical education very materially, and set at rest much that is unsettled, and sadly in need of adjustment and definite disposal.

1. Christian Science. Upon this subject the commissioner states that so far as the practice of their religious views is concerned there should be no interference. With this all will agree. But when it comes to a matter of treating the sick a new phase of the relationship of this faith and the public must be considered, and his Lordship uses these words: "They should, therefore, conform to the present or future health regulations, and when they act for gain they should be required to possess sufficient medical knowledge to recognize diseases pronounced by the health authorities to be communicable. Their rights should be carefully

restricted to the bona-fide exercise of the tenets of their religion, and they should possess no other right, or immunity from that enjoyed by the clergyman or minister who is called in for the spiritual benefit of a member of his communion, and whose ministrations often react beneficially on physical suffering."

Heavy penalties are recommended in the case of such as attempt to treat contagious diseases and fail to recognize them and report to the health authorities. This is as it should be. Mrs. Eddy, in *Science and Health*, again and again declares that disease is only a delusion of mortal mind, that all disease arises from sin or fear, that all diseases are the same, namely, some maladjustment towards infinite mind. Holding such views, the Christian Scientist, when he undertakes to treat disease, is a most dangerous person; and the commissioner very properly advises that such persons be granted no special privileges, that he be held responsible for his mistakes, and that if he is going to treat the sick for gain he must secure from the Provincial Board of Health a permit stating that he has the knowledge to distinguish contagions from each other, and to recognize them when seen.

This would have a most salutary effect, as very few, if any, of the Christian Scientists could qualify. In order to do so they would have to study diseases practically in the wards of our hospitals, and undergo proper instruction. This would very soon put Eddyism out of their heads. We would expect that the Provincial Board of Health would not issue a permit to any one who could not diagnose the many communicable diseases, such as typhoid fever, smallpox, diphtheria, scarlet fever, tuberculosis, and we hope soon to find on the list, syphilis and gonorrhoea. This would prove a large bill of fare for one whose text-book was Mrs. Eddy's *Science and Health*, with Key to the Scriptures.

2. Chiropractic. Referring to chiropractors, the commissioner says: "That he cannot accept as part of the recognized medical profession a system which denies the need of diagnosis, refers ninety-five per cent. of diseases to one and the same cause, and turns its back upon all modern medical and scientific methods as unworthy to be even discussed."

This is a thoroughly sound and just expression of opinion. The one and only cause of disease with the chiropractor is some displacement or subluxation of the spinal column, causing pressure on some nerve. We have time after time exposed this folly that it only remains now to bury out of sight the corpse of this so-called system, and forgive the use of the word "system". Justice Hodgins' comments must be accepted as finally disposing of this wretched theory of disease and worse than wretched method of treatment. A study of the announcements and literature on chiropractic reveals views that one would not believe to be

possible in the present advanced state of science and learning in general.

Just take the following from a pamphlet on Chiropractic by B. J. Palmer, a leader of the cult: "Many look at chiropractic as if it was a game of chance, good for some things, but not good for others; all right as far as it goes, but it don't go far enough, but on closer inspection it does not resolve itself into that, it is applicable to all things, under all conditions, no matter what."

Comment is unnecessary on such a statement. It is self thrice condemned.

3. Osteopathy. It should be noted with satisfaction that the commissioner advises that no separate status be granted osteopaths. That it would be a mistake to accord to them the privilege of legal standing as an independent body. Osteopaths will be barred from practising healing unless they first conform with the standards laid down by the Medical College. It would be impossible to find fault with this view. Osteopathy is only a sort of glorified massage, and anything to be found in this system of healing can be placed under the regular medical profession. To meet this view the report definitely advocates action by the Government with a view to encouraging the training of students in physical therapy.

It is recommended that an institute of physical therapy be established on the grounds of the Toronto General Hospital. There should be appointed a competent staff. There should be installed in the department of physics at the University a proper medical equipment for the teaching of physical therapy. The effect of this recommendation, if it becomes law, would be to give the medical student an opportunity of becoming familiar with the best features of physical therapeutics, such as massage, manipulations, electricity, etc.

That there are good features in the practice of osteopathy is not denied; but these good features are quite ordinary and embrace rubbing and manipulation. This is miles away from constituting a new system. It is only one, and, at that, a minor phase of general therapeutics. The part about osteopathy that drags it hopelessly into the dirt is the view that nearly all diseases are due to some luxation or displacement. This holds good for germ diseases, because there must be the malposition of some part, usually the spinal column, before the germ could cause disease. This also leads to a vicious theory about the application of the manipulations, so that a man's spinal column is loosened up to cure his typhoid fever, and so on. When physical treatment is placed in the hands of the medical profession, all this wild application of it will disappear. To say that a child should have its neck loosened up when it

is ill with diphtheria, is certainly tempting Providence and inviting disaster.

All osteopaths who have entered upon their practice in Ontario since 30th June, 1913, when Sir James Whitney stated he would appoint a commissioner, must qualify before the College of Physicians and Surgeons, or cease practice. These have come here in the face of warning. Those who were then in practice and have had five years' experience, and hold a certificate from one of the five colleges recognized by the American Osteopathic Association, and, further, can furnish a certificate from the association that they are qualified to pass an examination for license in the State with the highest standard, may continue in practice under a special license from the Minister of Education.

If these suggestions are put in the form of a statute, and they should, osteopathy will be placed where it belongs.

4. Optometry. On this topic the commissioner recommends that those wishing to practise optometry be given special instruction in a course to be arranged by the University of Toronto, the Optometrical Association and the technical school. If they pass the prescribed examination they will be entitled to style themselves optometrists. Those practising prior to 30th June, 1913, to be entitled to certificates by passing an examination to be arranged by a specially appointed board.

One must reserve judgment on this recommendation until the form of legislation is submitted for consideration. If the course of study be sufficiently extensive to ensure a thorough knowledge of the diseases of the eye, their relationship to constitutional states, and a proper training in the anatomy and physiology of the eye, the plan may work out satisfactorily. If, on the other hand, the course is made an easy one, nothing but disaster will result. If optometrists are to be given autonomy, the standard must be high.

We frankly confess that we feel there is no need whatever for the legal recognition of optometry. All that optometry can hope to accomplish can be much better accomplished by such members of the medical profession as follow a special practice on diseases of the eye. It would be as reasonable to establish gastrologists, dermatologists and cardiologists, and set them up as independent practitioners. This tendency to division must do much harm, and we cannot approve of it.

5. The College of Physicians and Surgeons. We heartily concur in this portion of the report. We think it would be a mistake to discontinue this body, and this is the view of the commissioner. An independent examination is a steadying factor in medical education. It is left an open question whether the universities and the College of Physicians and Surgeons may combine upon some system of joint examina-

tions. We believe there should be some common examination that would carry with it the degree from the university and the license from the College of Physicians and Surgeons. There does not seem to be much object in examining a student twice on the same subject within a few weeks.

6. A Medical Director. While taking evidence, the commissioner manifested a sincere desire to obtain information on the feasibility of appointing one who would act as a sort of arbitrator or referee in medical affairs. The public could appeal to this person. The report states that "The profession requires to be protected against itself; against sloth and inefficiency in the conduct of its preparations, as well as its practice."

The value of this office will largely depend upon the tact and good sense of the person who fills it. It might turn out to be only another officer whose duty would be mainly to watch other bodies. Notwithstanding all the objections that can be advanced against such an appointment, we are inclined to approve of this part of the commissioner's report.

7. Homoeopathy. Justice Hodgins recognizes the fact that this body is dying out. He suggests that as the whole Medical Council is responsible for what is done by it, the entire Medical Council should decide upon the education of the homoeopaths, and that this should not be done by the few homoeopaths on the Council. This would tend very much to unify medical matters, and we believe it to be an excellent suggestion.

8. Nurses. It is recommended that the provincial registration of nurses to be established with local branches where nurses may be registered according to their qualifications.

Only those graduating from schools conducted by public hospitals or by a school designated by the Provincial Secretary, if outside the Province, are to be known as a graduate, trained or certified nurse.

Home nursing associations are to be incorporated, and provision is to be made for the training of nurses to serve under practising physicians or a graduate nurse in caring for the sick in their homes and their families.

The establishment of further training centres and the training of nurses are to be dealt with immediately.

We must warn the members of the medical profession that if they wish the many excellent features of Mr. Justice Hodgins' report to become law, they must use their influence in support of this. Already the lay press is filled with letters from the osteopaths and the chiropractors trying to convince the people of what wonderful systems for the cure of disease they follow. It will not do to treat this with silent contempt.

The price of freedom from every form of erroneous teaching is perpetual vigilance. As general systems of the treatment of disease, Christian Science, osteopathy and chiropractic are founded on false conceptions, and must not obtain legal recognition.

LORD LISTER.

Some time ago Sir Rickman Godlee gave the profession a biography of Lord Lister. This book has been reviewed in *The London Nation*. Henley, the poet, wrote of Lister in these words:

His brow spreads large and placid, and his eye
Is deep and bright with steady looks that still,
Soft lines of tranquil thought his face fulfil—
His face at once benign, and proud, and shy.

The reviewer in *The Nation* gives the following expression of opinion regarding Lister:

“That his range of fancy was so narrow and his imagination so limited is our good fortune; for it is largely due to these facts that Lister has contributed so much—perhaps as much as any man—to the saving of life and the abolition of pain. It may well be doubted if he would ever have discovered the scientific basis of that asepsis at which all his practice aimed. It needed the mind of a Pasteur to do the work of discovery. But, for the work of applying the discovered truths and theories to case after case, in the face of difficulties and professional scoffing, Lister’s intellect and qualities were almost ideal.”

Then there appeared a defence of Lister by Joseph Rowntree, which had the effect of bringing forth the following from George Bernard Shaw:

“Lister’s theory of antiseptic surgery was so shallow and stupid in its conception, and so disastrous in its practice, that the only excuse for his rash acceptance of it was that it seemed at first to produce good results owing to the astonishing improvement of cleanliness and common decency into surgery. In spite of this, antiseptically treated sinuses refused to heal; surgeons like Lawson Tait, who would have nothing to do with Lister’s antiseptics, and declared that the best ‘antiseptic’ was pipe water, were conspicuously successful as operators; and Spencer Wells made an operation that had previously been a desperate one comparatively safe by keeping the patient under temperature conditions which had nothing to do with antisepticism, Lister’s method was soon dropped in hospital practice, and replaced by what was called the aseptic treatment. Lister himself dropped it. In *The Medical Press and Circular* of December 26th last, the editor, apparently under the impression

that he is defending Lister's reputation, states that Lister nearly killed Queen Victoria by his treatment of an abscess, and saved her by an empirical anticipation of the treatment of Colonel Sir Almroth Wright, the success of whose work during the war has not only given the coup de grace to Listerism in up-to-date practice, but enabled him to give a colossal experimental verification of his view that the antiseptic sterilization of wounds, surgical or other, is not only impossible, but would be fatal if it were possible; and that the attempts at it retard or prevent healing instead of accelerating it."

A number of surgeons replied to this and showed what Lister had really achieved. One of the replies was by Greville MacDonald, who was one of Lister's house-surgeons. He expresses his appreciation thus:

"Without cleaning or fumigating the wards, teeming with all manner of septic organisms, from the day of Lister's entry we never saw the temperature rise after an operation in any of his patients, and never saw a blush on a wound. To us who had been taught that inflammation was necessary for healing—and yet did it so disastrously!—it was a miracle, the more so that Lister immediately did operations that hitherto we had learned must always prove fatal. . . . Lister always claimed that he had not discovered any sure way of biologically cleaning a foul wound. To this latter Sir Almroth Wright had helped enormously. Yet it is hardly necessary to emphasize his success by insulting his greater predecessor. It was Lister's work to show how healthy flesh might be incised with the certainty of its not becoming infected and the patient destroyed; it is Almroth Wright's to devise means for cleaning wounds already infected, and thus to save life.

"Lister—and I knew him better than was possible to most students—was, perhaps, as Mr. Bernard Shaw suggests, not a great intellectual; and he certainly was, in his manipulations, not a great surgeon. The mighty work that he did arose primarily from the fact that he was a great humanitarian; it was his pity for all sufferers that gave him imagination to counter surgery's disgrace, gave him fortitude to fight the most disgraceful stupidity and jealousy in his profession, and thus to raise the surgical side of it from the status of dishonest and vulgar sawbones to a worth and dignity something finer than that for which Mr. Shaw gives it credit."

The real truth is there has only been two periods in surgery—the one prior to Lister and the one since. There are surgeons still living who can say with much feeling the words "Then and now". Yes, then and now sums up the story!

SELECTED ARTICLES

A THEORY OF THE ETIOLOGY OF CANCER.*

BY HUGH MORTON, M.D.

Fellow of the Royal Faculty of Physicians and Surgeons, Glasgow; Professor of Physiology, the Anderson College of Medicine, Glasgow; Assistant Physician, Outdoor Department, Western Infirmary, Glasgow, etc.

THE causation of cancer is a subject that has occupied the mind of clinicians and pathologists for a very long time, and the work that has been done on the subject, both before and since the Imperial Research Fund was founded, has been simply colossal; but still the origin remains a mystery. Theories have been put forward, high hopes have been raised, and one by one the theories have dropped into oblivion and the high hopes have been dashed to the ground, and we have been forced to admit that the longed-for goal is still beyond our range of vision. It, therefore, behooves us now and again to stand aside and review the work that has been done on the subject, to get a proper perspective, to see where we are, and finding what is sure ground, to stand on it and avoid the quagmires. I, therefore, propose in this article rapidly to review what has been done on the subject, and, with all humility, put before the profession a few thoughts that have laid hold on me in the course of the examinations I have made of the stomach and bowel contents of all the gastro-intestinal cases that have come before my notice, whether they have been cases of simple gastric ulcer, simple hyperacidity, dilatation of the stomach, achylia gastrica simplex, or carcinoma.

My vague thoughts began to take a more definite form in 1911 when I was working along with Wolff in Ewald's Laboratory in the Augusta Hospital, Berlin. Wolff and Junghans were just publishing the test for carcinoma of the stomach which has since become associated with their names, and which I will refer to later. They found albumen in the stomach contents of cases of gastric carcinoma, which they accounted for as being due to the milk of the cancer. But, thinking of the albumen got in nephritis and of the cause of nephritis, I did not agree with their hypothesis, but thought that a more reasonable cause could be found, one more in harmony with the albumen of nephritis, and that fact that I have since found the Wolff-Junghans test to be positive in cases which by operation ultimately were proved to be carcinoma of the intestine, further convinced me that this explanation of it as being due to the milk of the cancer was open to criticism.

* Selected from The Glasgow Medical Journal, January, 1918.

In an article of this description one can only touch on and briefly review the various theories that have been put forward, and allow the reader to draw his own conclusions as to the merits of each. Such being the case, I first of all propose to state briefly some of the theories with a few of the pros and cons,¹ and then go into more detail with regard to the theory which is primarily the reason for this article.

One of the oldest, and probably that which has taken most hold of the mind and time of pathologists up till within recent years, is what is known as the parasitic theory. In olden times the case of cancer was thought to be an animal and it was represented as a loathsome creature driving its claws into the unhappy victim. Then it was thought to be a vegetable parasite of the fungus type, and we are all familiar with the large parasitic growths on plants and trees which in our youth were pointed out to us as being cancerous growths, which would infect us if we came in contact with them. In recent years, when organisms were found to be the cause of so many diseases, naturally the minds of bacteriologists turned with hope to the belief that here lay the origin of cancer, and an endless amount of work has been done and endless hopes raised; but though many organisms or parasites have been described as the cause of cancer no one of them has stood the test of time. Regarding this ancient and very interesting theory, there are certain points in its favour, but all the facts cannot be explained by it. Cancer does affect the surface of the body, either the external or internal skin, and naturally the advocates of this theory point to this fact, and say that as those are the parts exposed the organisms lay hold of those parts and produce the disease. The theory would also explain the prevalence of cancer in certain districts; cancer streets, cancer houses, etc., and also the fact that it is not uncommon to find two or three members of the same family affected. It would also explain secondary deposits and recurrences after operations. But it does not explain why all attempts have failed to transmit the disease from one species of an animal to another. Another difficult point to explain with this theory is that of the age when cancer is most liable to occur, namely, after the thirty-fifth year. It might be said that that is a simple matter, namely, that the organism can only flourish in tissues that are beginning to degenerate, but it has been proved by inoculation into young mice from an infected mouse that on the whole the cancer flourishes better in the young, though in mice as in men one seldom finds it beginning in young mice. Lastly, one finds that organisms always stimulate or produce the same kind of cells. Thus an abscess due to staphylococci is always composed of polymorphs., and tubercle produces its giant cells, lymphoid cells and lymphocytes; but not so cancer. Cancer always takes the form of the cells of the part

involved. Thus cancer of the breast is different from cancer of the uterus, stomach or bowel, etc.

The Embryonic or Cohnheim's Theory.—Another theory that has had considerable vogue and has found many disciples is the embryonic theory. In this particularly sad and depressing theory we are led to believe that some of us are born with cancer, and there is no escape. According to this theory, in the process of folding over of the three embryonic layers—the epiblast, the mesoblast and the hypoblast—some of the cells get out of place and, when degeneration begins to show itself in the individual, those cells, which have retained their embryonic character, get a chance, begin to proliferate, and produce cancer. Undoubtedly some parts of the body do at times show embryonic effects, especially in the mouth and anus; thus cleft palate and imperforate anus, etc., and those also are the common sites for cancer. But cancer also develops at times on the site of burns, etc., where no such embryonic defect is ever discovered. And again it is difficult to believe that those occluded cells will lie dormant for from 35 to 65 years, and then for the first time show signs of life, proliferate with amazing rapidity, and produce a cancer in a month or two.

These are the two theories that have held most vogue and have been most widely considered, but they by no means exhaust the theories. Thiersch, for instance, suggested that there is in health a normal balance between the epithelial cells and connective tissue, and that the latter exercises a restraining influence on the former; but as age advances the connective tissue gradually becomes weaker, loses its influence, and allows the epithelial tissue to proliferate and cancer results. This, however, does not account for the fact that cancer does not commence all over the epithelial structure, but is restricted and localized to one area at a time. Another point that Thiersch must have overlooked or been ignorant of is that while cancer tissue transplanted from one mouse to another produces cancer, normal epithelial tissue so transplanted does not result in a cancerous growth.

Ribbert assumes for adult epithelium, when separated from the restraint of connective tissue, or when separated from "organic continuity" with its fellow cells, powers of growth similar to those of Cohnheim's embryonic cells. The powers of proliferation assumed by Cohnheim's theory to be possessed by embryonic cells when shut off from the rest of the organism are supposed to be possessed also by adult epithelium, when it loses in any way continuity with its fellow cells or loses connective tissue restraint. Chronic inflammatory changes occurring in connective tissue are supposed to produce the separation of adult epithelial cells from their fellows, and these, when so separated, acquire powers of

growth and proliferate, leading to cancerous tumors. The main objection to this theory is the same as in Thiersch's, namely, that epithelium does not exhibit power of growth similar to that exhibited by transplanted cancerous tissue in mice.

Within recent years a great deal of work has been done on the internal secretions of the ductless glands, and results of far-reaching importance have been obtained. Indeed, one might be permitted to say that the branch of medicine connected with the functions of the internal secretions has made greater strides within the last twenty years or so than any other branch of medicine, and it therefore is not to be wondered at that a theory connected with secretions should be set forth. Dr. J. Beard suggested that the union of sperm and egg does not result in the offspring but in a "trophoblast", which is represented in man by the chorion. The embryo serves as a temporary shelter for the rest of the germ cells, most of which reach the germinal ridge and give origin to the reproductive cells. Some of these cells, however, do not find their way to the germinal ridge, but are deposited in various parts of the embryo. These aberrant germ cells are of two kinds in destiny, those for future generations and those originally intended to form embryos (identical twins, triplets, etc.). These latter are the seeds of tumors, such as cancer. At any time in the life of the individual, if conditions are favorable, these germ cells may commence to grow and form what is called an "irresponsible trophoblast", in other words, cancer. According to Beard, during the growth of the embryo the normal trophoblast is suppressed at the time of development of the pancreas, and it is by the secretion of this gland that it is destroyed. During the life of the individual, owing to the failure of some counter-balancing influence, possibly owing to some defect in the secretion of the pancreas, the germ cells mentioned above which have been deposited in various parts of the body are capable of starting growth and multiplication, and developing into irresponsible trophoblast or cancer. The starting of cancer is, therefore, due to some lowering condition of the system which enables these germ cells to wake into activity; and in response to the knowledge that the secretion of the pancreas suppresses the normal trophoblast, the pancreatic ferments have been advocated as the remedy for cancer.

At various times the theory has been put forward that cancer is due to meat eating, and a vegetarian diet has been recommended as the means of prevention, but statistics have proven that cancer is as prevalent among vegetarians as meat eaters. Others have suggested that fish eating is the cause of cancer, and as fishermen undoubtedly produce a large number of cancer cases this has been put forward as a proof. But cancer is common among people who do not eat fish. Alcohol has also been

blamed, but cancer is found among the most obstemious. It has been said that cancer is due to the eating of pork, bacon and ham, and also that it is the salt in those articles of diet that produces the mischief, but Jews, who eat no pork, bacon or ham, develop cancer, and so this is proved to be wrong. Indeed, the following is an extract from the report of the Imperial Cancer Research Fund on the statistical investigation of cancer: "As was to be expected from the facts already made known in the first scientific report concerning the distribution of cancer in animals, diet exercises no primary influence on the occurrence of cancer in the various cases of mankind. Just as cancer is found in carnivorous and herbivorous animals, as well as in those subsisting on a mixed diet, so also races whose diet is similarly restricted are all found to suffer from cancer."

Locality and climate have been blamed. Valleys with large rivers have been said to be favorable localities, and alluvial and clayey soils have been stigmatized, but the disease is found to be as prevalent in districts with entirely the opposite conditions. Mists, fogs and damp have also been said to produce cancer. Certain occupations, worry and anxiety are said to play an important rôle, and some eminent men have urged their influence but have not been able to prove it. Such, as far as I can gather, is the state of our knowledge at present.

Leaving the region of speculation, experiments and theories, for the time being, let us look at a few facts that are known to be facts. The first one we can think of is the age at which cancer develops. Undoubtedly cancer is rare under 35 years of age, and indeed is not at all common under 40, and from that age onwards the incidence of cancer becomes more prevalent. That is to say, that when man has reached his zenith and is beginning to decline, when the best he is capable of doing has been done and when he begins to reap the fruits of his labors, the incidence of cancer sets in. That is when normally the tissues of the body are beginning to show signs of degeneration, or when there is a natural degeneration of the tissues.

Secondly, there are certain sites of election for cancer, namely, where there is an external irritant. Such sites are the mouth, the breast, the os uteri, the pyloric end of the stomach, the rectum, etc., each of which is more or less exposed to some special irritant or injury. These two facts no one will deny.

Thirdly, the history of the case is fairly typical—at present I am dealing more particularly with the history of cases of carcinoma of the stomach or bowels. Where an individual aged from 35 onwards comes complaining of his digestion, you find that he states that he has been a martyr to his stomach for years or that it is funny for him to be com-

plaining of his stomach. "Doctor, I have always had an excellent digestion, I could eat anything up till a few months ago when I began to feel, etc., etc." In the first case one can say, and usually correctly, that is not the history of a case of cancer (I am not forgetting that cancer is sometimes found implanted on an old ulcer), whereas in the second case one is always more than suspicious, and only too frequently one's suspicions are verified by further examination. This is a very important point, as I hope to show.

Regarding cancer houses and cancer streets we cannot be so emphatic. Damp situations, lacking sunlight, low lying districts, etc., are said to be localities notoriously liable to cancer; but the statement is not free from criticism, so that those cannot be put down as facts.

I have already pointed out that in the report on the statistics of the Imperial Cancer Research Fund it is stated that diet has no influence on the production of cancer, but my contention is that it has. Not that I put forward any particular part of one's diet as the cause, but one must not say that because vegetarians and people who indulge in a mixed diet are equally prone to cancer therefore diet has no influence. It is a well-known fact that infants who at too early an age get "the run of the house", are prone to diarrhoea, rapidly lose weight and become emaciated; yet children of a little older age do take and make good use of a mixed and full diet. Indeed, they require it, and from the school age onwards to their maturer years require a diet that will make good the wear and tear of the system. The intestine has and exercises a selective action. Absorption is no mere physical process of osmosis and filtration. The cells through which absorbed substances pass are living, and in virtue of their vital activity not only select material for absorption, but also change those substances while in contact with them; and in infancy, before the intestinal glands functionate, a child requires to be very carefully dieted and the bowels carefully attended to, or nature, in the shape of the intestine, begins to kick and the child rapidly loses flesh, dying speedily if not soon put on the right lines again. Once, however, the glands functionate the diet requires to be increased, with careful and gradual additions until the child gets a full and free diet. But it is to be noted that the child requires not only to keep his system up to standard but to build; and as a healthy child is never at rest there is provision both for utilization of the food and elimination of the waste products of metabolism. As the child gets a little older and begins to go to school, we find that his active little brain as well as his body requires more nutriment, and the feed is made "richer"; and so long as he has plenty of outdoor active exercise he remains well. Once the exercise is diminished he is no longer able to get rid of the waste products of digestion,

and anæmia and debility set in. He now leaves school and goes to work, and being still growing and having his mental life enlarged, he takes and makes use of a fuller diet and still progresses till he ultimately comes to the age when he has reached his limitations; he can go no further, and has got to be content with his attainments. He is incapable of starting an entirely new line of business. A business man, who has devoted his energies up till this period to finance, finds he cannot become a student. The effort is too much for him, and he has to admit that he is not equal to it. So also a student finds that he cannot take up a business career; he is not trained for it, his brain has formed its habit of thought and cannot be remoulded to suit his altered circumstances. He has reached his thirty-fifth or fortieth year. He is now no longer as young as he was. He begins to find he is not able for and to a certain extent has lost interest in the sports and pastimes of his youth, but he does not admit that he requires less food, indeed he feels that he has now reached the age when he can afford to enjoy his meals (see note on the history of the onset of cancer). He has always had an excellent stomach, but he has never had the means or perhaps the time properly to enjoy his food; so, mentally speaking, he says to his stomach—I have laid in a store, eat, drink and be merry. I am not suggesting that he increases his diet or that he takes more varied or richer food than he formerly did, but that with the diminution in his physical and mental activity he does not diminish his diet proportionately. He may be a busy man or have a great deal of responsibility, and his meals may be hurried and bolted, but he has always had a good digestion, so on he goes. He forgets or takes no heed of the fact that he is not having the exercise that he had before, and also of the warning that he is no longer able for the exercise of youth. It never strikes him that his gastro-intestinal mucous membrane is not able to undertake what it formerly could, and he accordingly gives it more to do than it can cope with, and the mucous membrane, which has already started the natural degeneration, loses some of its vital activity, in other words, loses to a slight extent its selective action. The cells become more sluggish in their action, the changes which the food undergoes in passing through them more protracted, but yet complete so long as too much is not demanded of them. But if more food be given than they can cope with, the change is incomplete and a coarser ash reaches the system; that is, irritating products enter the circulation. This, coupled with the fact that the elimination of waste products is not so active, soon means that the system contains a considerable amount of poisonous waste products which act as an internal irritant.

It may here be asked how do you account for the fact that cancer of the stomach comes on in those people who have always had a good

digestion, and not in those who have always more or less complained of their stomach? Surely if it be the case that cancer is due to the waste products of digestion irritating the naturally degenerating mucous membrane, in conjunction with the external irritant, it would be more likely to attack those whose mucous membranes have suffered for years than those who have held out without complaining till the age of 35 or so. To that question I reply: Those who have known "they have a stomach" have always been forced to take care of what and how they ate, or they knew they would suffer pain for it—and here it may be mentioned that in those indolent ulcers which do not produce much pain it is not uncommon to find the patients taking very little care of themselves and a carcinomatous degeneration of the ulcer sets in; whereas those who have never suffered tend to eat hurriedly, chew their food indifferently, and when remonstrated with reply, "I am 35 years of age and have never known I had a stomach"; and so they go on, and nature allows them to pile up the bill, till ultimately she allows them to go no further; the bill is presented and must be met with compound interest.

That the sympathetic nervous system suffers in gastro-intestinal cases is a fact known to all. Even those who have no knowledge of medicine are well aware of the facial expression of the chronic dyspeptic—the dilated capillaries of the face, the tendency to facial flushing, and the greyish and unhealthy appearance. We are also aware of the irritability of those who even temporarily have their gastro-intestinal tracts upset, and of the emotional upsets which are not at all uncommon. In those, too, who have reached the stage of having the internal irritant mentioned above, the sympathetic nervous system begins to suffer, which results in a vasomotor paralysis. The blood vessels become dilated, the circulation through them becomes delayed, and as the blood they contain carries a chronic irritant it causes a further degeneration to set in in the mucous membrane, produces atrophic changes, achylia gastrica, allows albumen to escape and in time the blood corpuscles themselves. On account of this degeneration of the blood-vessels along with the epithelial structures, we can now see how the Wolff-Junghans reaction comes about, and how it is not due, as its discoverers consider, to the milk of the cancer, but may be and often is present in cases of carcinoma elsewhere than in the stomach. Thus in June, 1913, I examined the stomach contents of A. F. M., who was a lady of 50 years of age, with a particularly good complexion and weighing over 13 stones. I found an achylia gastrica with a positive Wolff-Junghans test. She had always a good complexion, and only recently complained of anorexia and flatus. I diagnosed a carcinoma, but as the lady looked so unlike a patient suffering from malignant disease the relatives hesitated to have an operation. I

kept her constantly under observation and repeatedly analyzed her stomach contents. In December, 1913, besides the achylia, lactic acid and Boas-Oppler bacilli, blood appeared in her stomach contents and a great excess of musous. She still complained of anorexia and severe flatus whenever she took "even a mouthful of food", and gradually lost weight. In June, 1914, she developed an acute intestinal obstruction and was operated on. No cancer was found in the stomach, but in the descending colon there was a very large inoperable mass which had infiltrated the mesentery to the extent of making a colotomy impossible. An opening was therefore made in the small bowel and allowed to drain. She died in great agony in August, weighing less than 7 stones.

The atrophic changes take place all over except where the external irritant is present. Here we have an intermittent pressure or an intermittent irritant, and just as corns and warts are produced by intermittent pressure or irritants, so the cells of the mucous membrane begin to hypertrophy at the spot, and being away from the control of their neighbors multiply rapidly, take on the embryonic type and produce a cancer. The mucous membrane of the intestine being supplied with irritating blood degenerates further. There being an achylia gastrica or a subacidity of the stomach the food leaves the stomach unprepared for the intestine, and hence a greater strain is put on this already weakened intestinal mucous membrane. This allows more predigested material through—a coarser ash—and so a vicious circle is soon set up, which results in the anæmia and debility that is associated with malignant growths.

The question may be asked why is it that cancer appears in some people on the tongue, in others in the stomach, rectum, breast, os uteri, or the site of an old burn? To this question one can only point out that the site of the external irritant varies. In some it is most severe on the lip or tongue; for example, in people who smoke short, dirty clay pipes. In others it is in the breast, pylorus, rectum, os uteri, or the cicatrix of an old burn, and it is where the external irritant is most severe that the cancer develops. In other words, the internal irritant with its accompanying phenomena is the predisposing cause and the external irritant the exciting cause.

Here an interesting fact may be mentioned. If the blood of an early cancer case be examined one finds only the signs of a simple anæmia. But in later cancer we find a blood picture very similar to, indeed practically identical with, that of pernicious anæmia. My contention is that it is the irritating waste products of digestion which, acting on the blood-forming organs, which have naturally enough to do to keep up the normal supply, causes a greater demand to be put on them

than they are able for, and, just as in pernicious anæmia, they throw into the circulation immature red blood corpuscles, etc. This point is also of interest in the etiology of Hodgkin's disease, which, I understand, is beginning to be thought of as a malignant condition.

Regarding cancer streets, cancer houses, and the tendency to run in families, I am of the opinion that as, under those circumstances, the people live and eat so much alike, their habits as regards their treatments of the *prima via* are more probably the cause than any external agent. Of course, I am aware that very seldom do you get two members of the same family absolutely alike in temperament, habits, etc., and in that lies their saving grace.

Regarding secondary deposits, the active hypertrophied epithelial cells follow the line of least resistance, and entering the slowly flowing lymphatic stream reach the nearest lymphatic gland and multiply.

I think, too, that this theory explains the recurrence after operation, and also the fact that many seem to sink more rapidly after operation than before. Where the case is got early and an early diagnosis made, then it is possible to remove the growth before secondary deposits have taken place; and the patient, knowing he has had a cancer, takes care what and how he eats, and obeys his physician as he never did before. But where the operation is delayed the external and internal irritants are too much for the epithelium, and recurrences take place. Besides the patient is weaker, he has undergone a serious operation, is losing a considerable amount of albumen, and this coupled with the external irritant is too much for him.

Again, why is it that by inoculation into young mice from an infected mouse it is found that on the whole the cancer grows even better in the young than in the old, though in mice, as in men, one seldom finds it beginning in the young? It is an actively growing tissue which is introduced into the mice, and getting a better blood supply in the young than in the old, it flourishes on the whole better. But in the original mouse it was the result of an internal and external irritant acting on the naturally degenerating epithelium, and hence it was more liable to begin in the old than in the young.

Lastly, does this theory explain why all attempts have failed to transmit the disease from one species to another? Reverdin and Thiersch showed that skin grafting was possible from man to man, and now skin grafting is universally employed in surgery; but transplantation of tissue is successful only in animals of the same species.² On the same page will be found the statement: "It has been found that it is especially young tissue that will grow, and that growth after a time comes to a standstill and may be succeeded by atrophy." Cancer is known to be of

an embryonic nature so far as the power of multiplication and division is concerned, and hence may be looked on as young tissue, and being active tissue of one animal is only transmitted to another animal of the same species. This, I contend, is why we cannot transmit cancer from one species to another.

REFERENCES.

- ¹ See Appendix of "The Control of a Scourge," Charles P. Childs.
² See Hektoen and Riesman, vol. i, p. 120.

THE PRINCIPLES OF TREATMENT IN INDIGESTION.*

BY PERCY LEWIS, M.D.

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MR. LEONARD WILLIAMS' recent articles on the "human soil" have induced me to unburden myself of certain ideas which have gradually crystallized out of my mind during years of general practice.

A Swiss doctor, criticizing English doctors, said: "They are very good, but lose sight of principles in masses of detail." It must be admitted that this was a well-founded opinion. It behooves, then, those who aim at advancing our art to endeavor to elucidate those fixed laws or principles, so that treatment may be in conformance with these, and so scientific.

Dr. Leonard Williams has most graphically described the "cesspool under the gastric dining-room," and the methods for its removal, and so touches the first principle of medicine, which is, "keep the main drain flushed". As he says, if this were regularly done, the greater part of chronic disease would never occur.

But how keep it flushed? That is the main question of all. Firstly, do not put anything into it which ought not to be there, and do not expect it to carry more sewage than it was made for. Here, again, we touch a principle as self-evident as the first, and yet systematically ignored in the mass of detail of present-day treatment. If a drain is blocked, surely it is better to clear it out, and in future to put less into it, rather than to attempt to disinfect its constantly overcharged contents?

It must be noted, too, that nearly all the drugs usually prescribed for indigestion are antiseptics, or have an inhibitory fermentative action, such as alkalis on acid-producing organisms. Now all digestive action is a fermentation process. Who would attempt to study fermenting processes whilst antiseptics were mixed with them? It is a principle, then,

* Selected from The Medical Press, 16th January, 1918.

that "all antiseptics are anti-peptics", and therefore should have no place in the scientific treatment of dyspepsia. Fallacies in connection with drug treatment are very numerous, and though one wishes to keep to principles, a word may be allowed as to bismuth. This is one of the most used of intestinal antiseptics, but it has also such a decidedly inhibitory effect on the peristalsis that it is given for diarrhoea. This decidedly inhibitory effect is generally supposed to be in abeyance when the X-ray operator is noting the rate at which the bowel contents are passed on! Imagine anyone testing the normal speed of a motor car when the brakes were jammed on! Again, however viewed, the practice of supplying artificial digestive ferments is only attempting to induce the digestive organs to digest food they are obviously unable to manage. Surely it would be better to first get the organs in a fit state, by means to be mentioned later, to do their own digesting. Do intestinal disinfectants (exclusive of mercury) ever disinfect? The reply may be unhesitatingly given. They do not. How could anyone possibly expect to disinfect thirty feet of digestive apparatus, with all its coils and interstices and by-ways, without killing the patient long before a sufficient dose to produce disinfection had been reached. That any of us ever believed it, is only another instance of how much nonsense we accept without thought from our teachers.

A deodorant action is undoubtedly often effected, but in so far as stopping of abnormal fermentation is concerned, so must digestion be to that extent stopped. Deodorized faeces must contain undigested food which without the antiseptic would have been digested or abnormally fermented. In either case the patient derives no benefit from the drug. The right course is to alter the food in quantity or quality, or both. Such success as comes apparently from disinfectant drugs is much more probably due to the accompanying diet alterations.

How, then, should one disinfect a digestive system or prevent abnormal fermentation in it, and how produce the natural automatic flushing of the main drain? What happens to a baby when it is fed at the right intervals on the natural food? It remains well, its bowels act normally, and its motions show no signs of abnormal fermentation. But the picture is apt to be quite different when food, abnormal in quantity, unnatural in quality, is given at wrong intervals. The distressing effects are more or less marked, according as one or all of these wrong conditions obtain. As the child is father to the man, the answer to the question of how to prevent abnormal fermentation in the digestive organs would be, "Nothing affects the condition of the alimentary canal like what is put into it, having due regard to quantity, quality, and hours of administration." It is a well-known fact that persons abstaining from

food for long periods suffer no digestive discomforts after two days, a proof, if one were needed, that it is our food which causes abnormal fermentation.

It is admitted generally that most people in health eat considerably more than their bodies require to maintain their weight and energy. It follows, then, that to reduce the amount of food must automatically reduce the amount of toxæmia. An extremely common experience is for a patient returning from a course of aperient waters at one of the Spas to find that regular action of the bowels rather than constipation is the result. This is no doubt because the chronic distention with gas interfered with regular peristaltic action, and also because the toxins had an inhibitory effect on Keith's motors. Therefore, to lessen fermentation is to lessen the need for aperients. It is a principle, then, that when a person suffers from abnormal digestive fermentation, the quantity of food must, for a time, at any rate, be reduced.

As to quality, it may be stated that "the more simple the meal, the more digestible." A meal of one course is more easily digested than the pig-trough meal of many courses formerly served in the hotel table d'hôtes. It follows that three meals in a day of one course each will be digested with less abnormal fermentation than three meals of several courses.

Though these simple meals are followed by less fermentation, how is it possible to get rid of the necessity for aperients? The answer would be, start with the bowels cleared by an aperient, and then to treat by diet. A diet which works very well is as follows: Breakfast, meat, ham, egg or fish, and bread and butter; luncheon, uncooked fruit only, any quantity; dinner, meat, fish and bread and butter. The luncheon of fruit is relied on to effect the necessary bowel action. Suppose no action results. Then one must go back a step further. A treatment similar to the "grape cure" will certainly be effective. In the "grape cure", as formerly carried on abroad, the patient eats nothing but grapes until mild aperient action is induced. Then gradually simple food in addition is given, and the grapes reduced. Sufficient grapes are, however, taken to keep up bowel action. A diet is soon reached where there are two simple meals, and a fruit meal. This is a diet which can be maintained, if necessary, for a long period, and allows, without harm, such occasional deviation as the claims of society or the craving of the individual demand.

There are advantages in an uncooked fruit meal other than nutritive and aperient ones. The fruit salts assist renal elimination. Adults, just as babies, thrive on live food. So much is this the fact that a raw fruit diet is being extensively used in certain circles at the present time.

Perhaps the most potent means of modifying and curtailing intestinal fermentations consists in regulating the fluids taken. As a general principle, fluids are required for the body and not for the digestive organs. That is, fluids should only be taken when they are readily absorbed; in other words, when there is a body demand for them. Taken in the absence of this demand, they remain in the digestive organs, and, diluting the normal digestive ferments, favor abnormal fermentation, in the same way as jam made too wet will ferment. Especially is this the case in the abnormal fermentation of the large intestine and the stomach. Now there is a body demand for fluids when these have not been taken for a long time, as, for instance, in the early morning. After being eight or more hours warm in bed, the tissues have given up a large amount by the breath, skin, and kidneys, and a large quantity of fluid, if taken, will be absorbed until the loss is replaced. Consequently, at and around breakfast-time, fluids may be taken according to inclination, without encouraging abnormal fermentation.

In the absence of unusually hot weather or of unusual exertion, the system is not short of water at lunch time, consequently no fluids should be imbibed with that meal. Therefore, the next time for fluids is at and around dinner-time. If the fermentation be severe, no fluids should be taken until dinner-time, but if not so severe, tea may be drunk at tea-time, and only a minimum of solids allowed with it.

When once these principles of fluid-taking are grasped, how futile appear certain methods often prescribed? For instance, what possible reason can be adduced for only taking fluids between meals? The only effect is to dilute the digestive process then going on, and so encourage an abnormal variation of it. Where, too, is the advantage of drinking only after a meal?

The treatment of intestinal fermentation by vaccines would surely be much more effective with a dry, not overloaded intestine than with the reverse conditions obtaining. In fact, the necessity for a vaccine is much less often apparent when the conditions above noted are first brought about.

In the treatment of indigestion the mental factor requires consideration. The effect of freedom from worry, congenial company, and environment are well known to most doctors from personal experience. In the present article these need only be mentioned.

To recapitulate, then, the principles to attend to in the treatment of abnormal fermentations in the gastro-intestinal apparatus are:

1. Keep the main drain flushed.
2. Do not eat more than can be digested without abnormal fermentation.

3. Drugs should only be used for preliminary cleansing purposes. In this is included, if necessary, a Spa course. Antiseptics are antipeptics.
 4. All digestive processes not due to organic disease can be modified by modifying the diet as to quantity, quality, and times of administration.
 5. Fluids should only be taken with the morning and evening meals.
- Folkestone, December, 1917.

SALVARSAN AND NEOSALVARSAN MYELITIS.

G. W. McCaskey, Fort Wayne, Ind. (*Journal A. M. A.*, Dec. 8, 1917) says it is not surprising that serious results may follow treatment of syphilis of the central nervous system with so powerful a drug as arsenic. The gravity of the disease, however, justifies the risks. Perhaps the most common neurotoxicologic result is a hemorrhagic encephalitis which has been verified, in some cases, by necropsy and by microscopic examination. Other cases, however, have not been accounted for by the findings. A few cases of myelitis have been reported and some of them are here described. To these the writer adds another of his own observation with comments on it. The drug undergoes fundamental changes in the tissues, probably varying in different cases. It is not unreasonable to assume that to these reactions are due some of the serious and unpleasant complications that have been observed as the result of an administration of neosalvarsan. He sums up as follows; "1. Severe and even fatal myelitis may, though rarely, result from even small doses of salvarsan or neosalvarsan given either intravenously or subdurally. 2. This accident may happen without warning in cases in which the same treatment with identical doses had been well tolerated before. 3. It is not always, if at all, due to faulty manufacture, as the same solution has proved fatal to one and innocuous to others, to whom it had been given within the same hour, both before and after the fatal dose. 4. Wechselsmann's conclusions that renal block furnishes the explanation of salvarsan fatalities seems entirely untenable. 5. The most plausible hypothesis seems to me to be the action of toxic compounds in the form of intermediary bodies with especial affinity for the neurons formed in the retrograde changes which occur in the salvarsan compounds and which may vary in different individuals and in the same individual at different times, and of the exact nature of which we are entirely ignorant. 6. Considering the enormous number of these treatments given, the occurrence of myelitis is so rare that it should be ignored as a negligible possibility."

CURRENT MEDICAL LITERATURE

REACTION OF THE PUPIL TO COLORED LIGHTS.

James A. Cutting (*Journal of Nervous and Mental Disease*, October, 1917), instituted an investigation to determine whether colored lights caused the same pupillary reaction as white light; whether a certain color produced a specific pupillary response in a particular disease, and whether the use of colored lights was of clinical value. The results obtained are thus summarized: The pupil reacts differently to different colored lights, giving a greater reaction in some than in others in the following order: white, yellow, reddish yellow, green, blue and violet, thus following the luminosity of the spectral colors. There is no reaction specific to different diseases. There is a distinct clinical value in using the green light as a measure for amplitude of reaction, which cannot be obtained from white light. It is a convenient method for measuring the amount of light necessary to produce a pupillary response.—*New York Medical Journal*.

RADIUM IN CANCER.

A report has been issued by the Cancer Committee of Harvard University giving the results of the use of about 235 milligrams of radium in the treatment of 642 cases of cancer and allied conditions at the Collis P. Huntington Memorial Hospital from September, 1913, to January, 1916. The conclusion of the authors of the report, Drs. W. Duane and R. Greenough, is that in many cases of advanced, inoperable, and recurrent cancer radium therapy may do good in relieving pain, diminishing discharge, checking hemorrhage, lessening the size or even causing total disappearance of the growths, and improving the general condition. The beneficial effect on the patient's mind must also be taken into account. In a very small number of advanced cases the improvement was such as to warrant a radical operation. In about 35 per cent, of superficial types of cancer without metastasis, and in a much smaller number of metastatic cancers, radium is capable of doing away with the clinical manifestations of the disease. In a limited number of cases recurrence took place even after apparent destruction of the lesion. In keratosis, papilloma, and other affections of the skin regarded as precancerous, radium was effective in abolishing the clinical manifestations in from 48 to 60 per cent. It proved of special value in recurrent and inoperable carcinoma of the cervix or body of the uterus, inoperable squamous car-

cinoma of the tongue, jaw, and buccal mucous membrane, and in non-metastatic epidermoid cancers. On the other hand, radium was of little benefit in recurrent or inoperable carcinoma of the breast, stomach, intestine, glands of the neck, cancer of the tongue, mouth, and lips, and in deep-seated metastatic extension of cancer from any region. Its use as a preventative of recurrence after operation is not recommended. Where the affected area is superficial and accessible radium may be used with benefit, but not after operation for breast cancer. The combination of radium treatment and operation gave satisfactory results in several cases, and is adapted to the more advanced cases of rodent ulcer.—*British Medical Journal*.

TREATMENT OF HAEMOTHORAX BY ARTIFICIAL RESPIRATION.

Hess gives an account of the method of treating early cases of haemothorax by artificial pneumothorax. He contrasts the conservative treatment he followed in the earlier part of the war with the more active treatment he has now adopted in the field. He points out as defects in the earlier treatment of leaving the fluid untouched, the following facts: (1) The patient must remain for a long period in bed, as even sterile effusions of blood take much longer to absorb than ordinary pleuritic effusions. (2) Infection of the haemothorax fluid is very common. Hess has therefore recommended, since the beginning of 1916, early withdrawal of the fluid by puncture, followed by the introduction of nitrogen or of air under controlled pressure. He describes his technique, the chief point of which appears to be that after withdrawing 50 c.m. of fluid by suction, double the volume (that is, 100 c.m.) of the gas is slowly blown in, so as to keep up a positive pressure and collapse the lung. Thereafter 100 to 200 c.m. of fluid are withdrawn, and double the volume of gas blown in to replace it. This quantity is removed again and again, and replaced by the gas, until no more fluid will flow. The lung, he says, may be kept collapsed for as many days as appears necessary, by the reintroduction of nitrogen or air by means of puncture.—*British Medical Journal*.

CHLOROFORM IN LABOR.

Dr. I. L. Hill, of New York, said that in June of last year he reported to the American Medical Association the results of animal experimentation and clinical experience, as well as an exhaustive study of medical literature, and came to the conclusion that there was no analogy be-

tween experimental work done on animals and the careful administration of therapeutic doses of chloroform in labor. He had been surprised at the tendency of obstetricians to discredit the use of the anæsthetic that had been most useful in their practice, not on the evidence of what had occurred in obstetrics, but what had been found at times in deep surgical anæsthesia and what was reported from animal experimentation. It would be contrary to the purpose of scientific advancement to ignore the evidence of the laboratory. It seemed only practical, however, to study the reasons for the apparent discrepancy between obstetrical experience and laboratory findings and also between the use of this narcotic in labor and in general anæsthesia. For the analgesia of labor, chloroform correctly used was perfect in results and absolutely safe. Other men had found great satisfaction in the use of nitrous oxide oxygen, and it seemed that as they became skilled in its use, they obtained a satisfactory analgesia just as he did with chloroform. It could not be safer, however, and its exponents must not seek to establish it on the basis of experimental poisoning of animals with chloroform, nor of the use of chloroform in surgery for complete anæsthesia, for neither had any bearing on the harmless chloroform analgesia of obstetrics.—*New York Med. Jour.*

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We particularly recommend this to our southern customers.

SPOROTRICHOSIS.

To the total number of cases of sporotrichosis observed in this country, amounting to less than a hundred, another is added by E. H. McLean, Omaha (*Journal A. M. A.*, Nov. 24, 1917). Though discovered in America the disease has been more thoroughly studied in France where there is an extensive literature on the subject. In the case reported, a clinical diagnosis of glanders was made but cultures revealed the sporotrix. The case adds another from the Missouri valley, from which section of the country have come the largest number of reports of the disease.

TREATMENT OF VINCENT'S ANGINA.

E. Emrys-Roberts (*British Medical Journal*, September 15, 1917) recommends the use of the following lotion in cases of Vincent's angina:

Hydrogen peroxide	150.0
Wine of ipecac	12.0
Glycerin	20.0
Water to make	250.0

The lotion should be thoroughly applied to the entire buccal cavity and will clear up the throat condition in one to two days and the gingivitis in about six days. The hydrogen peroxide loosens the purulent exudate and inhibits the growth of the anaerobic bacillus; the ipecac may have a more or less specific action on the spirochete; and the hygroscopic properties of the glycerin aid in the penetration of the preparation into otherwise inaccessible regions. In practical use the mixture has proved most valuable.

 PREPARATION AND STANDARDIZATION OF OVARIAN AND PLACENTAL EXTRACTS.

W. H. Morley gives due emphasis in his article to the need for more uniform methods in the preparation of ovarian and placental extracts. Tangible laboratory and clinical data are still moreover lacking in extent. A review of the more important articles on the above subject reveals the circumstance that it is only within the last ten years that an attempt has been made to isolate the active principle of the ovary and placenta, especially the former. Iscovesco (1908) obtained "lipoids" from the red blood corpuscles, hypophysis, kidney, adrenals, ovaries, the testicles and the corpora lutea, and discovered they exerted a certain action on the female genitalia. The "homo-stimulating" lipoids exercising an action on different organs—this division he discovered later being purely arbitrary. Hermann (1915) believes he has succeeded in separating the "active substance" of the corpus luteum and of the placenta as a specific chemical substance, having identical physiological properties. Hermann possibly obtained his so-called active substance in a purer state. After engaging in special research work along this line during the last two years, Morley expresses the opinion that up to the present time no ideal method of preparation has been formulated, and until that is accomplished, standardization of the product will not be attempted. Considering the newness of the subject the article concludes with quite an extensive bibliography.—*Surgery, Gynaecology and Obstetrics*, Vol. xxx., 1917.

IMMUNE HORSE SERUM IN EPIDEMIC POLIOMYELITIS.

E. C. Rosenow (*Journal A. M. A.*, September 29, 1917) treated forty-four cases of acute poliomyelitis during an epidemic with an immune horse serum prepared with streptococci isolated from the central nervous systems of paralyzed monkeys. The plan of treatment was to make the diagnosis positive by lumbar puncture and tests of the spinal fluid. The serum was then given intravenously after activation by the addition of one part of fresh guinea pig serum to nine of immune serum and incubating at 37° C. for one hour. The mixture was then diluted with 0.85 per cent, salt solution to twice its original bulk. The injection was made at the rate of two mils of the mixture a minute. The dose was three to seven mils of the original serum for a child under two years old; seven to ten mils for those of two to five; and ten to twenty mils for older children. The injections were repeated at intervals of eight to twenty-four hours. Of the treated cases six were moribund when first seen and died; three only of those receiving sufficient serum to give it a true test also died. That is, there was a mortality in treated cases of twenty per cent. if all were included, or of eight per cent. if the moribund cases were omitted. During the same epidemic the mortality in twenty-three cases not treated by the serum was thirty-five per cent. In twenty-two serum treated cases with paralysis before the beginning of treatment all but the three which died and one other had the paralysis checked, and no paralysis developed in any of the sixteen cases treated in the preparalytic stage. The general symptoms of the disease were much alleviated and very promptly in practically every case.—*New York Medical Journal*.

SHOCK AS SEEN IN WAR SURGERY.

Edward W. Archibald and W. S. McLean (*Annals of Surgery*, September, 1917) point out that recent English work has demonstrated in shock a serious loss of plasma into the tissues, with consequent rise in the hemoglobin count and the viscosity of the blood in the vessels. In shock produced by histamine, Dale and Laidlaw showed that one-half of the plasma had disappeared into the tissues. The same is true in cholera shock. Marshall has found an increase of twenty per cent. in the hemoglobin count in patients in one casualty clearing station. On the other hand, obvious edema post-mortem is not always, or even often, seen unless large amount of saline have been infused. The authors suspect it may be in traumatic shock what Krehl suggested was the case in fever, that the extra water is retained chiefly in the cells themselves and not in the tissue spaces. By exclusion, therefore, it appears that the

trouble begins in the vast capillary system, that enormous area of marshy ground in which fluid has such a chance to stagnate. It is known with fair certainty, from the work of Cotton, Slack and Lewis, that the capillaries possess active contractility. Dale and Laidlaw believe that in shock produced by histamine the tone of the capillaries is lost and blood stagnates. For the present Archibald accepts this is the point of primary failure in traumatic shock. Pallor, followed in bad cases by cyanosis, is an outstanding feature in their observations. The veins no longer receive enough blood. If they did shock could be overcome by gravity and compression, which, as a rule, cannot be done now. Consequently, the failure in the venopressor mechanism according to Y. Henderson is a secondary effort; likewise the gradual failure of the heart and of the coronary supply, all of which assist in the establishment of a vicious circle. The capillary failure leads to insufficient oxidation, which results in asphyxial acidosis or, as Henderson puts it, "The acid substances thus formed cause the proteins of the tissue to imbibe water from the blood in much the same manner that fibrin swells in dilute acids. Hence the fatally rapid transudation of fluid from the bloodvessels."—*New York Medical Journal*.

GASTRIC ACIDITY.

A preliminary account of methods for the reduction of gastric acidity is given by Edmund Jacobson, Chicago (*Journal A. M. A.*, Nov. 24, 1917), who says that it is generally admitted that the hydrochloric acid of the stomach comes from the sodium chlorid of the blood, and that the body gets its chlorids from food and from common salt. What is more logical, therefore, than to do away with hyperacidity by shutting off the supply of chlorids? Dogs deprived of salts usually show a less active gastric juice and various other animals do not thrive without them. It may be admitted that foods without inorganic salts will not maintain life. In treating hyperacidity we do not need to exclude all inorganic salts, but rather to exclude the chlorid. If untoward symptoms should arise, however, and show that the deprivation has gone too far, it is conceivable that a limit might be found, at which favorable clinical results are gained, but beyond which we should not go. Any diet for the purposes in question should not be deficient in the essential "vitamins". Also, it should be well balanced in protein, fat and carbohydrates, not lacking in vitamins, inorganic salts or sodium, but only in chlorin. But even after a prolonged salt-free diet the tissues still supply chlorin to the gastric glands. More experiments are required on man, and we can take special steps to meet the difficulty. In man the gastric juice is con-

served and resorbed in the intestine, and the same does of salt can be used again indefinitely for the secretion of gastric juice. Says the writer: "We must seek to promote elimination of chlorids by giving plenty of potassium salts (Bunge), by avoiding the use of sodium bicarbonate, which decreases elimination (Goldberg and Hertz), by frequent aspiration, and by giving plenty of water (Rulon and Hawk). But if excess of water increases the gastric secretions, as is supposed, it may prove better to restrict the use of the fluids." The method of attack, then, is to use a well-balanced diet save for the lack of chlorin. Foodstuffs should be either naturally poor in chlorin or freed from it by boiling. To season their food, these patients should be given a special inorganic salt mixture, about as the proportion is found in milk, except that calcium lactate is substituted for calcium chlorid. The following formula for patients with nephritis, who are on a salt-free diet, is given by the writer:

Dicalcium phosphate	5/8
Monomagnesium phosphate	3/4
Dipotassium phosphate	7-7
Potassium citrate	1-7
Sodium citrate	7-4
Calcium lactate	4

Mix and pulverize.

"Important articles," he continues, "are fresh meat, potatoes, oatmeal, carrots and cauliflower, cut fine and then boiled for hours with several changes of the water; stewed apples prunes, and apricots; very tea and coffee; butter freed from salt by washing fine particles thoroughly in running water; one egg and about 50 c.c. of milk or cream per day but no more. Distilled water is used for drinking, but if need be, tap water may be used for cooking if the chlorin content is low, as in Chicago." Of course, these articles of diet will vary with the nature of the disorder, the complications and the stage of treatment. In some cases it might be well to begin with a period of starvation, following the special diet. A sample diet for one day is offered. In case of gastric ulcer, additional treatment may be needed, but potassium bicarbonate will take the place of the sodium salt if an increase in the excretion of sodium chlorid is sought. For the test meal either the Ewald, or better still, several hundred of c.c., solution, weak tea or plain water may be given. The acidities are determined by titration and the chlorids estimated by Van Slyke and McLean method. Salt-free diet in the nephritis diets in the hospitals, as a rule, cannot be adapted to the method. A sample of so-called salt-free bread from a hospital was found to contain a relatively large amount of sodium chlorid.

PERSONAL AND NEWS ITEMS

It is urged that there should be a hospital near Toronto, with space for 1,000 beds, for convalescent soldiers, or such as are no longer under active treatment. It is thought that Long Branch would be a suitable location.

Capt. H. C. Davis, M.B., 1911, who has been in the R.A.M.C. for some time, has been awarded the Military Cross.

The latest report states that the number of soldiers under the Military Hospitals Commission command was 10,908, or a decrease of 606 from the previous report. On 18th January the number of Canadians in British hospitals was 23,138.

The Ontario Hospital at Orpington is doing excellent service, and is very popular with all who are treated in it.

The city council of Toronto has decided not to make any special grants to the hospitals. It was held that the per diem allowance of \$1.25 must suffice.

The Military Hospitals Commission, with Sir James Loughheed at its head, and Mr. F. B. McCurdy as parliamentary secretary, is having its name changed into the Invalid Soldiers' Commission, with Mr. McCurdy as chairman.

Dr. Percy Barker, of Stratford, who has been in France for about two years, and who suffered from trench fever, is home on leave of absence.

Sir Edward Kemp, who visited the Ontario Hospital at Orpington, England, a short time ago, said that no service in the army had done greater work for the country than the medical portion; and further stated that the Government was considering an increase of pay for doctors on duty in the army. Col. McPherson, M.D., is in command of the hospital.

The suggestion has been made that the University of Toronto should have some permanent memorial to the late Lieut.-Col. John McCrae. He was one of the University's most noted graduates.

Major Amyot is a well-known Toronto doctor, who was director of the Provincial Board of Health laboratories before going overseas. His sanitation work for the army has been very valuable and his promotion rapid, holding in succession the post of sanitary adviser to a section, a division army corps, an army sanitary adviser in England to the Canadian forces. He was recently created C.M.G. by the King for his services.

The February meeting of the Women's College Hospital Board was held at the hospital, 125 Rusholme Road, Toronto. Various reports were brought in and it was stated that work on the new hospital was going forward as quickly as weather conditions permitted. Miss Woodberry, a graduate of Boston City Hospital, has been appointed assistant superintendent. Miss Woodberry has, for the last two years, been doing voluntary work under Dr. Grenfell at St. Anthony, Newfoundland. She is a native of Halifax.

Col. A. J. Mackenzie, who went to England as major with the C. A. M. C., and has since seen much service as a medical officer, both at the front and in various hospitals, is now in charge of the medical department of the Granville Canadian Specialist Hospital at Baxton, England. He is a B.A. of University College, '96, M.B. 1900, and also an LL.B. of the University, where he was a member of the staff in medicine before going overseas. Until a short time ago Col. Mackenzie was O.C. of the Canadian Red Cross Hospital at Ramsgate. His home is at Lucknow, Ontario.

Adjutant M. M. Crawford, M.D., of the Canadian Army Medical Corps, returned to Toronto recently from England, where he has been stationed at the Ontario Government Hospital at Orpington. He has been in service in England for two years.

The campaign to raise \$300,000 for the Montreal General Hospital, which, if accomplished, will be added to by \$100,000 promised by James Carruthers, president of the Canada Steamship Lines, on condition that the \$300,000 be secured, has been begun with a cabled contribution from Lord Beaverbrook of \$2,500, subscriptions of \$6,000 each from the Bank of Montreal and the Royal Bank of Canada, \$2,000 from A. D. MacTier, general manager, eastern lines of the C.P.R., and so many others that President Farquhar Robertson of the General Hospital Board expressed confidence of attaining the goal aimed at.

When the British hospital ship Glenart Castle was torpedoed by a submarine, off Bristol, on 26th February, several doctors and Red Cross nurses lost their lives. Such was actions on the part of Germany are most brutal.

Major Sidney S. Burnham, D.S.O., has just been gazetted a general staff officer of the third grade. This is the latest recognition of the splendid services rendered by Major Burnham since he enlisted as a lieutenant the first month of the war. A son of Dr. H. B. Burnham, 47 Warren Rd., he was educated in Toronto, first at Upper Canada College, and later at University College, where he received his B.A. degree in 1911. Going overseas with the 19th Battalion, he has been in France since

September, 1915. During the interval he has been mentioned in despatches several times, was wounded a year ago last September, was later promoted staff captain, and received the Distinguished Service Order last fall. A brother, Capt. Howard H. Burnham, who went to France the first year of the war as medical officer with the 2nd Brigade, C.F.A., was given the Italian Military Medal for Valour in May, 1917; and a sister, Miss Mary Burnham, is going overseas again shortly to resume her duties in a Canadian Convalescent Hospital for officers in the south of France.

Capt. Donald A. Warren, of Hamilton, who went to France with a casualty clearing station in November, 1915, has resigned his commission in the Royal Army Medical Corps, with which he had served ever since. Enlisting originally with the rank of lieutenant, he received his promotion while on active service, and was later attached as medical officer to the Royal Warwickshire Regiment. While with this unit, Capt. Warren was awarded the Military Cross for conspicuous gallantry and devotion to duty. He continued to attend wounded for over an hour under heavy artillery fire and in full view of the enemy. Later he established an aid post, and carried on for forty-eight hours without rest under continuous fire. Capt. Warren holds two degrees from the University, where he took his M.A. in 1910, and graduated in medicine with class '12.

Col. Wallace A. Scott, B.A., '95, M.B., '98; F.R.C.S., '03, was a member of the medical school staff when he enlisted for overseas, and went to England as lieutenant-colonel with No. 2 General Hospital. Later he served as O.C. of No. 2 casualty clearing station, France, and at present is colonel and O.C. at Moore Barracks Hospital, England. He was previously mentioned in despatches and given the C.M.G. at New Year's.

Dr. William C. White, an M.B. of 1899, and an M.D. of 1901, who has been connected with the health service of the volunteer relief work in France, has been made chief of the Bureau of Tuberculosis of the American Red Cross in France. He was late of Pittsburg.

Two Varsity men who have been home on leave are leaving shortly for England. Capt. Jas. Dickson, a B.A. of University College in 1913, and a graduate in medicine in 1916, was with the R.A.M.C. in India and Mesopotamia and came home in January. Capt. C. J. Willoughby, a graduate of medicine in 1916, who was also with the R.A.M.C. in Mesopotamia, is the other graduate who is returning.

Capt. Eric K. Clarke, a son of Dean Clarke of the Faculty of Medicine, left recently for England, where he will be attached to No. 4 Canadian General Hospital at Basingstoke. He returned to Canada on leave

for treatment, and is a graduate in medicine in the 1916 class. A sister is serving in France as a nurse.

After lengthy service in Greece and England, Col. Alexander Primrose, M.B. of 1899, and a professor of surgery at the University of Toronto, has returned home. He went over as lieutenant-colonel with the University Base Hospital. He was promoted in England and made consultant to the Canadian forces. His only son, Lieut. H. P. Primrose, a University College student of 1918 class, was killed in action.

Brig.-Gen. Ashton, C.M.G., of Brantford, is an M.D.C.M., of Trinity, 1898, and crossed to England as O.C. of the 36th Battalion. Subsequently he became successively colonel of the Reserve Infantry Brigade and divisional commander at Shorncliffe, and in April last O.C. and brigadier-general with the 5th Division. He is now Acting Adjutant-General at Ottawa.

Col. George S. Rennie, of Hamilton, has received special mention. He took his M.D.C.M. degree in '08-'09, and was made a full colonel since going to England, where he served originally as A.D.M.S., of the Shorncliffe district. He had received the C.M.G. on January 1st.

After serving overseas with the R.A.M.C. and being mentioned for his services by General Haig, Lieut. Gordon M. Dale, who recently returned to Canada, has been appointed to the staff of the Base Hospital, Toronto. Lieut. Dale was a popular student at Victoria College with class '12, and took his medical degree at the University three years later. His home is in St. Thomas.

The Aftonbladet says that after a massacre which occurred at Kervo (Kerava), the Red Guards wired to Helsingfors for surgeons and ambulances. Five surgeons, who left immediately, adds the paper, were murdered by the Red Guards on their arrival.

The staff of the Toronto Hospital for Sick Children has been so much depleted by the enlistment of members of its staff for medical service in the army, that it became necessary to ask for the return of Dr. L. Bruce Robertson.

Dr. Clarence Starr, who went overseas more than a year ago, has returned, and has been inspecting Canadian military hospitals in the interest of the orthopedic departments of these.

Lieut.-Col. D. G. McPherson, who is in charge of the Ontario Hospital at Orpington, has been gazetted deputy assistant adjutant at the War Office.

Sir Alfred Keogh has retired from the office of D.G., A.M.S., and has left behind him the reputation of being a great organizer. During the three years he has filled this office while the war was at its most strenuous condition. He is succeeded by Colonel Goodwin.

Major Carroll G. Bull, N.S., M.C., claims to have succeeded in obtaining a serum that greatly attenuates or even cures gas gangrene. Its employment so modifies the course of the disease that operations may be safely undertaken.

The Medical Record of 9th February has a very sensible article on the folly of too much refinement in the classification of mental diseases, and contends that more attention should be devoted to histopathology, psychology, the endocrinous glands and psychotherapy.

It has been found that an ointment containing 25 to 30 per cent. of calomel, as recommended by Metchnikoff. This ointment is applied at once after intercourse, or even before it. In Egypt this plan has been found to be most efficacious and has reduced the incidence of venereal diseases to a negligible amount.

The marriage law in the State of New York contains these words, which both parties must swear to: "I have not to my knowledge been infected with any venereal disease, or if I have been so infected within five years I have had a laboratory test made within that period which shows that I am free from infection from any such disease."

The New York Medical Journal in an editorial contends that venereal diseases should be put on the list of contagious diseases and granted no privileges. They are more dangerous than smallpox and not nearly as respectable.

Dr. Henry Maudsley died in England at the age of 83 on 23rd January. He was a noted authority on mental diseases. In 1908 he gave \$150,000 to the London Asylum Board for the furtherance of the treatment of mental diseases.

It has been decided in the United States by court that a license to practise osteopathy does not confer the right to remove tonsils or to give medicine in connection with the operation.

It is expected when the United States army is up to full strength there will be 24,000 medical men in service.

Major Gilbert Royce, M.D., who has been in the C.A.M.C. for over two years, has been made commandant of the Canadian hospital at Bromley, Kent, England.

Dr. Graham Chambers has completely regained his health, and is now chief in medicine of the Moore Barracks Hospital, Folkestone, Eng.

Wr. William Gunn, of Clinton, who was doing surgical work overseas for a period of two years, has returned and resumed practice.

The Ontario Government has introduced a bill to limit the spread of venereal diseases. It is intended to enforce treatment and provide detention where necessary.

The Carnegie Foundation has donated to McGill University \$1,000,000 in recognition of the institution's devoted service and sacrifice in Canada's share in the war.

Mrs. Frank Oliver, of Edmonton, has offered to McGill University \$10,000 to establish a scholarship in memory of Lieut. Allen Oliver, M.C., killed at the Somme.

OBITUARY

FRED. S. SNIDER, M.D.

One of Norfolk's most prominent and most widely known citizens passed away on 10th February, in the person of Dr. Fred. S. Snider, sheriff of the county. He was born in Windham, and after graduating from McGill Medical College returned to Norfolk, practising in Simcoe, Teeterville and Waterford successively. Dr. Snider was for four years a member of the county council and was warden in 1898. He contested the north riding successfully in the Conservative interests in 1902, and was appointed sheriff about 1909. Judge Snider, of Hamilton; Wm. Snider, of Toronto; Russell Snider, of Winnipeg, and Arthur Snider, of Swift Current, are brothers. He married Miss Carrie, daughter of the late Dr. Douglas, of Simcoe, who, with two children, Douglas, of Walkerville, and Miss Leila, at home, survives.

WILLIAM HALL CARLETON, M.D.

Dr. William Hall Carleton, a medical practitioner who was well known in Toronto and Thornhill, Ont., passed away recently at his residence, 154 Danforth Ave., Toronto. He had been ill for a year and was in his 63rd year. Dr. Carleton was a son of the late William Carleton, for many years a school teacher in Ontario, and was 63 years of age. After graduation from the University of Toronto he taught school for some years, later completing his course in medicine. He had been practising his profession for 32 years, and for 12 years his practice was confined mainly to Thornhill and environs. He was a member of Danforth Avenue Methodist Church and a past-master of the Masonic Lodge at Thornhill. His widow and one son, Dr. G. W. Carleton, and one daughter, Frances, survive. The funeral took place at Mount Pleasant Cemetery.

JOHN NEWTON, M.D.

The late Dr. John Newton, a well-known resident of Deseronto, Ont., passed away on 14th February. He was born in Kingston in 1842 and was graduated from Queen's University in 1866. He moved to Deseronto in 1870. In 1873 he was appointed physician to the Mohawk Indians on the reserve. He was Mayor of Deseronto in 1903 and 1904, and from 1907 to 1912. He was also president of the Conservative Association for some time. In 1860 he took an active part in the volunteer movement.

CAPT. JOHN FERGUSON PALLING, M.D.

Dr. J. F. Palling died in London, Eng., on 1st February. He went overseas some time ago with the rank of captain, and was engaged in military hospital duties. He graduated from Trinity University in 1888, and located in Barrie, where he soon built up a large practice. A few years ago he was appointed registrar, and then retired from much of his general practice. He was a most highly esteemed gentleman.

A. E. HANNA, M.D.

Death came with startling suddenness to Dr. A. E. Hanna, M.P., at his home in Perth, Wednesday morning, 27th February, as a result of heart failure. Tuesday evening he came home from visiting with his mother at Soperton, and complained of not feeling well. When Mrs. Hanna went to his room at 11.30 in the morning she found him lying in bed with life extinct. Twenty minutes before his wife had heard him moving about the room, but evidently he had returned to bed.

Deceased was a son of the late James Hanna, and was born on his father's farm near Harlem, Leeds county. He graduated in medicine and surgery from McGill University in 1885, and had practised his profession in Perth since then, establishing one of the largest practices in the county of Lanark.

In December, 1913, he was elected to the Federal House to represent South Lanark in the Government, and at the last Dominion election carried the amalgamated ridings of North and South Lanark by a large majority. He had been for a number of years one of Eastern Ontario's prominent men, and was in his 56th year, and a Methodist in religion. He is survived by his mother, widow and two sons, Stewart, with the R.F.C. at Fort Worth, Texas, and Robert, at home. Dr. Frank Hanna, of Brantford, and Mrs. H. W. Lockwood, of Westport, Ont., are brother and sister of deceased.

F. W. NAEGELE, M.D.

Dr. Naegele, of Montreal, was found dead in his garage, with indications that he had succumbed to gasoline fumes. He was an anæsthetist of wide reputation and was president of the American Association of Anæsthetists. Death occurred on 24th January.

LOUIS G. McKIBBON, M.D.

A well-known medical man of Toronto has passed away in the person of Dr. Louis G. McKibbon, of the Western Hospital staff. Dr. McKibbon suffered a paralytic stroke at his home, 196 Spadina Avenue. Dr. McKibbon was born at Teeswater, Ont., 52 years ago, and was a son of the late George McKibbon, of Wingham. He attended Kincardine school and was graduated from Trinity Medical College in 1886. After practising for a number of years at Blackstock he came to Toronto, 20 years ago. He was a prominent member of the Masonic Order and was Warden of St. John's Anglican Church for a number of years. His widow and two daughters, Mrs. McCausland, wife of Lieut.-Col. Alan McCausland, and Mrs. Fred Temple, of Calgary, survive; and also three sons, George, of the Dental Corps, who recently returned from overseas, and Harold and Hugh, at school. Mrs. Edwin Quigley, of Toronto, and Mrs. Arthur Pampon, North Battleford, Sask., are sisters. Dr. R. E. McKibbon, of Victoria, B.C., and A. G. McKibbon, of Toronto, are brothers.

BOOK REVIEWS

THYROID AND THYMUS.

By Andre Crotti, M.D., F.A.C.S., LL.D., formerly Professor of Clinical Surgery and Associate Professor of Anatomy at Ohio State University College of Medicine; Member of the American Medical Association, Ohio State Medical Association, Columbus Academy of Medicine, American Association of Obstetricians and Gynaecologists, Society for the Study of Internal Secretions, Honorary Member of the West Virginian State Medical Society; Surgeon to Grant and Children's Hospitals, Columbus, Ohio. With 96 illustrations and 33 plates in colors. Philadelphia and New York: Lea & Febiger, 1918. Marbled paper, leather back and corners, gilt top. Price, \$10.00.

This is a large imperial octavo volume of 567 pages. It is got up in the finest style possible to the art of book-making. The paper is the best quality of quoted stock, the covers are in marble and gold, the top is gilt, and the back and corners are in genuine leather. The illustrations are of such a character as to make this really an edition de luxe.

We should also mention the clear and readable type. In all these respects the publishers have done their part in such a manner as to meet with the approval of the most exacting.

When we turn to the text we find that there is a full bill of fare. First, there is a chapter on Diseases of the Thyroid and Thymus. This is followed by one on the Physiology of the Thyroid. The third chapter is on Biological Chemistry. Then we have the section on Pathology. This is followed by a full account of Inflammation on the Thyroid. The next chapter is given over to the Relations of Goitre to the Surrounding Structures. There are chapters on Clinical Symptoms, Intra-thoracic Goitre, Goitre Death, Circular Goitre, Congenital Goitre, Simple Goitre and Pregnancy, Malignant Goitre, Pathology of the Various Forms, Thyroid Insufficiency, Medical Treatment, Thyroid Grafting, Cardiovascular Symptoms, Basedow Struma, Ocular Symptoms, Muscular Symptoms, Nervous and Mental Symptoms, Digestive Disturbances, Genital Disturbances, Respiratory, Sensory and Cutaneous Symptoms are considered. The condition of the blood and metabolism are fully considered. Then follow chapters on Hyperthyroidism and Hypothyroidism. The Etiology of Grave's Disease is given much attention. The treatment, both medical and surgical, is handled in a most able manner, including all the post-operative complications. A review of our knowledge on the thymus gland concludes the work.

It would be impossible to go fully into the many claims of this book to the attention of the reader, but we feel like paying some attention to that portion in which is discussed the etiology of exophthalmic goitre. This is handled with exceptional ability, and is one of the most lucid accounts we have ever read. The author did not arrive at his clear-cut conclusions without having first devoted much study to the question. He does not fall into line with those who hold that the disease is wholly of nervous or glandular origin. His own position is that it is a thyro-neuro-polyglandular disease, and a careful study of this portion of the book does not leave one much chance of escape from the author's findings.

The work as a whole is so stimulating and refreshing that one could wish that the author's views may obtain very wide circulation. We have here a real step forward on this very important field of work.

THE MEDICAL CLINICS OF NORTH AMERICA.

The number before us is for November, 1917, and the contents are contributed by physicians in New York. The articles are varied and cover much that is of interest to the general practitioner. The diseases

and conditions discussed are those met with most frequently. Anyone who reads these clinical numbers as they appear can enjoy the feeling that he is keeping himself abreast with the best in medical thought.

MISCELLANEOUS

A CANADIAN MEDICAL WEEK IN HAMILTON.

Arrangements for the big Canadian medical week have progressed favorably and we are now in a position to make some announcements regarding the programme.

A personal conference in Ottawa with Surgeon-General Fotheringham, of the Militia Department, and representatives of the other agencies interested in the returned soldier problem, resulted in bringing the plans for the symposium on this subject for Wednesday evening to a very satisfactory status.

Prof. Barker, of Baltimore, will give the address in medicine; Dr. Chas. Mayo, Rochester, in surgery; Dr. Isaac Jones, of Philadelphia, on the ear. Regarding the work in the sections, the general principle will govern in all that there will be a very few papers, but it is the expectation of the committee that each paper presented will promote a very elaborate discussion so that in a sense each will represent a symposium. The writers of the papers are asked to present a synopsis, which will be ready and in the hands of the committee before March 25th, which will be available for those wishing to prepare anything for discussion.

In the sections of medicine, amongst others, the following have agreed to take part: Leonard Rowntree, of Minneapolis; Allan Brown and Smith, of Toronto; Beatrice Hinkle, of New York; W. Gordon Lyle, of New York; J. Chandler Walker, of Boston, and Thomas McCrae, of Philadelphia. On eye, ear, nose and throat; Casey Wood, of Chicago; Walter Parker, Detroit; John Wheeler, of New York; Jos. Beck, of Chicago, and H. Halsted, of Syracuse. In surgery: McGuire, of Buffalo; Hyman, St. Louis; Guthrie, of Sayre, Pa., and Henderson, of Rochester, Minn.

It is proposed to have in addition to the regular programme in sections and general sessions, an innovation in the nature of a round table discussion on a matter of vital importance to the profession as a whole. Such will be arranged for late in the day when the regular programme is finished. Accommodation for this will be limited and all seats reserved.

Plans are also under way for the presentation of a most interesting

collection of scientific exhibits. There will be a pathological exhibit which will include a very fine collection of museum specimens from the McGill University museum, which will be in the personal charge of Dr. Maude E. Abbott, of McGill, and also an exhibit from the Babies' Hospital, of New York City, of a number of specimens illustrating pneumonia in children. It is hoped also to obtain similar exhibits of equal interest from the museum of Queen's, Toronto and of the Western. There will be a series of daily demonstrations of clinical laboratory procedures, including those of special interest to the general practitioner, such as the Wassermann reaction, the colloidal gold functional Kidney test, dark field for spirochaeta, and the preparation of serum and vaccines for therapeutic use.

In the X-ray exhibit plates are requested to be sent in by men interested in this work. There will be a daily informal demonstration and a lantern will be available for all those wishing to use it.

There will be shown daily from 4 to 6 p.m. moving pictures on medical and surgical subjects, including subjects of interest to the general practitioner.

Definite information regarding many of these items will be available and published in the form of a bulletin for distribution on each day of the meeting.

The American Medical Association have offered the use of their charts, illustrations and literature relating to the propaganda for reform, as carried on by that association.

The local committee also wish to announce that it is their wish to carry out the programme and all entertainments with greatest respect for war conditions. While there will be no formal reception or entertainments, this Ambitious City will go the limit of their capacity in their efforts to make the visiting members welcome, comfortable and satisfied.

THE WORK OF DR. ELSIE ENGLER.

Miss Kathleen Burke, wearing the decoration of a commander of the British Empire, conferred upon her by King George for her services with the Scottish War Hospitals, arrived on 10th February on an American steamship. She brought the story of the tragic death of Miss Elsie Engler, head of the Scottish hospitals, after a journey to Roumania at the head of Serbian soldiers who had been fighting on that front and feared they would be trapped after the collapse of Russia.

"The story of Dr. Engler will go down in history as the high water mark of a Scottish woman's devotion to her cause," said Miss Burke. "Unaided she came from the Roumanian front bringing with her 8,000

Serbian soldiers, superintending their transportation, their nursing and their comfort over the several thousand miles travelled. They marched through Russia and rather than trust their disposition to the heads of the Bolsheviki, she marched them up through Finland, whence they made their way to England, arriving on Nov. 20th.

"Then, exhausted by the terrible ordeal that she had undergone, Dr. Engles fell ill and died from the efforts of her labors. The Serbians, now in splendid shape, are training and will soon go to the front, having marched around the Central Empires."

THE AUTHOR OF "IN FLANDERS FIELDS."

Thousands of Canadian readers who have read, loved, and paged away for reference in years to come, the exquisite war lyric, "In Flanders Fields", will be glad to read again this poem. As most of them are aware, the soldier-poet wrote so beautifully of death, has himself been claimed by death. His name was Lieutenant-Colonel John McCrae, and he was a physician by profession. His death occurred at Boulogne, France, on January 28th, after a brief illness which developed into pneumonia. He may literally be said to have laid down his life in helping to save those of soldiers who had suffered "in Flanders fields".

The late Lieut.-Col. McCrae was a son of a widely known citizen of Guelph, Ont., and a veteran of the Canadian militia, Col. David McCrae, who, despite his advanced age, took a battery overseas in 1915. He was born in 1872, and his early education was received in Guelph. In the nineties he graduated in medicine at Toronto University, and took a post-graduate course in London. In later years he resided in Montreal, and at the time the present war broke out he was connected with the faculty of McGill University and assistant physician at Alexandra Hospital, Montreal.

His military affiliations were strong, and in 1899 he was one of the Canadians who volunteered for service in South Africa, and became a lieutenant in the South African field force. Later he commanded the 16th Battery, organized in Guelph, and a part of the Royal Canadian Artillery, which did such admirable service in the later stages of the campaign. He wore the Queen's S. A. Medal with three clasps. He became a close friend of the late Lord Grey, while the latter was Governor-General of Canada, and accompanied him on his trip to the Yukon in 1910. When the need for more medical men at the front arose in 1915 he went overseas, and has been one of the most efficient army surgeons in the Canadian forces. Latterly he was chief medical officer in Gen. Maurice's brigade, and his past military and hospital experience com-

bined made him a most valuable officer. Shortly before his death he made a tour of inspection of the field hospitals in France, and it is supposed that while on this trip he contracted pneumonia.

His literary gifts were well-known to his friends, but he did not seek fame as a writer, although when a student at Toronto University he captured a prize in Christmas story competition arranged by *Saturday Night*. The little poem, "In Flanders Fields", which he wrote on the spot, was first published anonymously in *Punch* upwards of a year ago, and was speedily reprinted throughout the English-speaking world. It was not until quite recently that the identity and Canadian birth of the author were revealed. Incidentally it was used with tremendous effect in the Victory Loan campaign of November last, and may be credited with having brought many million dollars into the coffers of the Canadian Government. It also had an undoubted effect on the views of many during the general election which followed. In fact, no other poem has so beautifully or intensely expressed the emotions of most Canadians as to the debt we owe to the fallen.—*Saturday Night*, 23rd February.

IN FLANDERS FIELDS.

In Flanders fields the poppies grow,
Between the crosses row on row
That mark our place; and in the sky
The larks still bravely singing fly
Scarce heard amid the guns below—

We are the dead, short days ago
We lived, felt dawn, saw sunsets glow,
Loved and were loved, and now we lie
In Flanders fields.

Take up our quarrel with the foe,
To you from failing hand we throw
The torch: Be yours to hold it high.
If ye break faith with us who die
We shall not sleep, though poppies blow
In Flanders fields.

—*John McCrae, Lieut.-Col.*

THE ANXIOUS DEAD.

The following poem, marked strongly by the peculiar genius of the late Dr. John McCrae, was given by him to the Rev. Dr. Chown, at Boulogne, last August, and is published in *The Christian Guardian*. At that time Lt.-Col. McCrae was second in command at No. 3 McGill University Hospital, France:

O guns, fall silent till the dead men hear
 Above their heads the legions pressing on;
 (These fought their fight in time of bitter fear,
 And died, not knowing how the day had gone).

O flashing muzzles pause, and let them see
 The coming dawn that streaks the sky afar;
 Then let your mighty chorus witness be
 To them, and Caesar, that we still make war.

Tell them, O guns, that we have heard their call,
 That we have sworn, and will not turn aside;
 That we will onward till we win or fall,
 That we will keep the faith for which they died.

Bid them be patient, and some day anon
 They shall feel earth enwrapt in silence deep,
 Shall greet, in wonderment, the quiet dawn,
 And, in content, may turn them to their sleep.

MEETING OF MEDICAL HEALTH OFFICERS.

A combined meeting of the Canadian Public Health Association and the Ontario Health Officers' Association will be held in Hamilton on 27th May to 1st June, 1918.

Presidential Address, Canadian Public Health Association—"A Plea and a Plan," W. H. Hattie, Halifax, N.S.

Presidential Address, Ontario Health Officers' Association—H. W. Hill, London, Ont.

"The Public Health Nurse"—J. A. Bandouin, Lachine, Que.

Paper (title not received)—M. M. Seymour, Regina, Sask.

"Good Public Health Service in Small Towns and Rural Municipalities"—J. J. Harper, Alliston.

"Hints on Rural Health Administration"—J. W. S. McCullough, Toronto.

"The Control of an Outbreak of Diphtheria"—W. C. Allison, Toronto.

- "The Trail of the Medical Vampire"—Frederick Paul.
 "Health Insurance"—Chas. J. Hastings, Toronto.
 "The Venereal Disease Problem"—Gordon Bates, Toronto.
 "Why is it Worth While to Establish Sewerage in a Small Town?"
 —F. A. Dallyn, Toronto.
 "Interpretation of Water Antlysis"—H. M. Lancaster, Toronto.
 "Mental Hygiene"—Clarence M. Hincks, Toronto.
 Symposium on Child Welfare.
 Chairman's Address—Alan Brown, Toronto.
 "Child Welfare in War Time"—Isaac Abt, Chicago.
 "Progress in Child Welfare Work in Europe"—Grace L. Meigs,
 Washington, D.C.
 "The Results of Three Years' Work in the Department of Child
 Hygiene, Toronto"—Geo. Smith, Toronto.
 "The Medical Student in His Relation to Infant and Child Welfare
 Work"—Richard Bolt, Cleveland, Ohio.
 "The Management of a Child Welfare Week in Small Cities and
 Towns, with Results"—Mary Power, Toronto.
 Round Table Discussion and Subscription Luncheon—Alan Brown,
 Chairman.

MEDICAL PREPARATIONS

THE RECOVERY FROM LA GRIPPE.

Since the first appearance upon our shores of that unwelcome infectious disease known as la grippe, the medical journals have been filled with articles advocating different methods of treating the attack itself and its various complications. But little attention, however, has been paid to the important question of how to best treat the convalescent subject. Among all of the acute infections there is probably none that is as likely to leave the patient quite as thoroughly devitalized and generally prostrated, as does a sharp attack of la grippe. For some reason the degree of prostration from grippal infection appears to be entirely out of proportion to the severity of the attack itself. This peculiarity renders it advisable and usually necessary to strengthen and support the general vitality of the patient during the period of convalescence. Complete rest, nourishing food, plenty of fresh air and stimulation according to indications are, of course, distinctly important measures. At the same time tonic and hematinic medication should not be neglected. Probably the most generally accepted and efficient general tonic and hemic reconstituent for such patients is Pepto-Mangan (Gude), a bland, non-irritant and promptly absorbable combination of the organic peptonates

of iron and manganese. This efficient blood-builder and reconstructive does not disturb digestion nor induce constipation, and is readily taken by patients of all ages.

KNOX SPARKLING GELATINE.

There is a Knox No. 1 Sparkling (Yellow) package, which is the original, unflavored, unsweetened gelatine that has stood the test of time. It contains two envelopes of pure, plain, granulated gelatine, a separate envelope of vegetable coloring for making fancy desserts and a recipe booklet. This package makes four pints of jelly—enough to serve 25 people, or it is so easily measured that one can make an individual dish. When Knox Sparkling Gelatine is used in the preparation of attractive, appetizing and nutritious desserts, salads, etc., the housekeeper may use her own ingenuity and prepare something different from her neighbor, and the result is an exactly known quality and quantity, because she uses the plain granulated gelatine and adds her own pure flavoring and sweetening.

There is a Knox No. 3 Acidulated (Blue) package, called the "Busy Housekeeper's" package because it saves time, labor and expense. It contains two envelopes of Sparkling Gelatine, an envelope of vegetable coloring and recipe booklet, the same as the No. 1 package. In addition it contains a nextra envelope of lemon flavoring which is used in place of lemon juice and saves the cost of lemons and the time and trouble of preparing them.

This is a very popular package with the housekeepers for the reason that nearly every gelatine dish requires lemon juice and with this package it is furnished in concentrated form ready for use. All that is added is water and sugar and the jelly is ready to mould. This package also makes four pints of jelly—four times as much as the so-called ready-prepared kinds, and the money you save, as well as the high quality of gelatine you receive, will prove to you why the majority of housewives use Knox Gelatine. Bear in mind that everthing in the Knox packages is packed separately so that the housekeeper may use the plain gelatine for gelatine dishes and the color tablet and lemon flavoring for dishes other than gelatine if she so desires.

The use of either package of Knox Gelatine is not limited to desserts. The most tempting salads, delicious candies, dainty jellies and puddings, and frozen ices, and ice creams are a few other dishes one can make or improve with it.

Send for a copy of "Dainty Desserts for Dainty People," which will show you how to make all kinds of dainty, economical dishes. Charles B. Knox Gelatine Co., 1100 Knox Ave., Johnstown, N.Y.