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EDITORIAL

THE STATUS OF OPTOMETRY.

From the lay press we take the following information, which sets forth what is being done by the optometrists under the new legal enactments governing them:

"The Board of Optometry, which was appointed under the provisions of the Optometry Act just before the late Government went out of office, has prepared regulations for the registration of optometrists and opticians and these have received the approval of the Government.

"The regulations provide for three classes: 'Optometrist' who measures the refractive condition of the eye and prescribes or fits glasses for the correction of any visual error; 'Optician,' who supplies lenses, mountings, etc., in accordance with prescriptions of an optometrist or medical doctor; and 'manufacturing optician,' covering those engaged in the manufacture of lenses, mountings, etc. The regulations provide for a stated course of study for optometrists of not less than one thousand hours, with a maximum of five hours a day in a school approved by the Board. The course of study must include: Elementary mathematics, geometrical optics, physical optics, anatomy and physiology, physiological optics, theoretical optometry; practical optometry, diseases of the eye, eye hygiene, manufacture and grinding of lenses, weekly clinics.

"For those desiring to enter practice as prescription or dispensing opticians, the course must be not less than four hundred hours, covering: Elementary mathematics, geometrical optics, practical optics, manufacture and grinding of frames.

"The above provisions apply to those hereafter desiring to commence business. For persons who have been carrying on business provision is made for the issuing of licenses where the applicant satisfies the board of his qualification. This exemption from study requirements also applies to persons who served with the military or naval forces

during the war, provided they can satisfy the board of their qualifications.

If the foregoing scheme is carried out in an honest manner, those who select this limited field of medical practice will become reasonably efficient. Since it has been decreed to legalize Optometry, its practitioners should be well trained in their own field of work.

DR. C. K. CLARKE'S RESIGNATION.

It was a surprise to many when the announcement was made that Dr. C. K. Clarke had resigned the Deanship of the Faculty of Medicine, University of Toronto. He followed the late Dr. R. A. Reeve, in 1908. During the twelve years that have transpired under Dr. Clarke's guidance of the medical faculty, all will be ready to admit that great progress was made, and that his manner and conduct of the meetings of the faculty were most happy. He will long be followed by pleasant memories.

In his own words he said: "I feel now that my work with the Mental Hygiene Committee is of more importance than that in the Faculty of Medicine. But I have spent twelve very happy years there. My resignation will not take effect until July."

After taking his degree of M.B. at Toronto University in 1878, Dr. Clarke began his medical career under the tutelage of Joseph Workman, M.D., and acted subsequently as assistant superintendent of the Hamilton and superintendent of Rockwood Hospitals for the Insane; and as superintendent of the Toronto Hospital for the Insane. In 1911 he was appointed superintendent of the Toronto General Hospital, acting since as psychiatrist and as professor of psychiatry at the University. He is considered an outstanding authority on this subject in the Dominion.

In his new sphere of usefulness we wish him every success. He holds very close to his affections a strong desire to better the lot of those of the mental weakling. If he is spared, as all hope he may be, for many years, the entire Dominion will respond to his teachings and sound advice. We look forward to new laws regulating the care of the mentally deficient members of the country. No doubt, too, a stimulus will be given towards the granting of money by the various provinces and the donating of money by the wealthy for proper care, training, and education of those defectives. In Dr. Clarke this class has a true friend.

Commenting on the splendid work done by Dean Clarke in the Faculty of Medicine, Sir Robert Falconer stated that the doctor will still continue his lectures to medical students.

Great regret was voiced in the department itself at word of the dean's resignation. During his twelve years' service there he has endeared himself to both undergraduates and staff.

It will be no easy task to follow him in the chairmanship of the Faculty of Medicine, as he possessed such tact that he kept all things running smoothly. His influence over the student body was great. He was a sort of hero among them, and they accepted his censures for wrong doing without without complaint or ill-feeling, knowing that he was a just judge in all matters concerning the undergraduate life.

His knowledge of mental diseases is very great, and it is a pleasure to be able to state that he will continue his lectures on psychiatry.

A GREAT LANDMARK GONE.

Many will feel a certain degree of sorrow at the removal of the Queen Street Hospital for the Insane from Toronto to Whitby. In the removal a unique landmark disappears. For about 75 years the asylum has been giving shelter to the mentally afflicted, and doing much for their restoration to usefulness again. During these years an affection had grown up in the minds of many Toronto people for the Asylum. This is the sentimental side.

It had, however, become apparent that the building had outlived its usefulness, and that new accommodation must be found. With this necessity in mind the Government had to decide upon a suitable location. Should the old building be pulled down and a new one put up on the same site? Or, should a new site be chosen? In the decision to select a large site in the country on which to erect the new building, we think the Government acted very wisely. There is ample land to afford employment for such patients as can work. This is a very valuable part of treatment.

Then there is the rural air and environment which must be admitted as an important condition in the proper management of an asylum for the insane. It has come to be recognized that an institution of this kind should be a working colony. The tailors make clothes, the bakers cook the bread, the shoemakers mend the boots, others grow vegetables for the tables of the inmates, and the carpenters make furniture. In this way these patients help to defray the cost of their

care and treatment, and are doing the very best thing possible for their recovery.

The new hospital for the insane at Whitby has every facility for the housing and treatment of the mentally afflicted. It is a home, a work-house, and a hospital. There is ample accommodation of the most ideal and modern sort. The new asylum buildings and grounds are a monument to the memory of the late Hon. W. J. Hanna, and we feel that no man could wish for a finer one.

DOCTORS AND LIQUOR ORDERS.

From all information at our command we believe that the medical profession feel very keenly the position in which they are placed by the Ontario Temperance Act. They are made the agents for the supply of alcoholic liquors to the people, and yet, in doing so they run grave risks of being wrongly judged. Let us point out some of the difficulties that confront the doctor.

In the first place the sort of patients of different doctors differ very much. One doctor may have a rich clientele, who have their homes well stocked with liquors, while another doctor's patients are drawn mainly from the working classes, who depend upon an order from their doctors. This will have the effect of making it appear that some doctors are rather ready in giving out orders, whereas they may really be very strong upholders of the cause of temperance.

Then, again, the district in which a man practises makes a great difference. One doctor may be located in a rural district where prohibition is the prevailing feeling; while another may be in a crowded city district where bars have been the order of the past, and the people have long been educated to the use of liquor. Such persons will frequently appeal to their family physician for an order.

Then it must be borne in mind that there are widely divergent views in the profession on the usefulness of alcoholic liquors in the treatment of disease. There are able and conscientious doctors who do not believe in them at all. There are others who do in varying degrees from extreme moderation to very free use. That alcohol is a recognized therapeutic agent of value there is no room for doubting. This has been settled beyond argument.

Further, there is much difference of opinion as to the best sort of alcoholic stimulant to order. Some doctors prefer wines, others prefer malt liquors, and others some form of spirit. There is no cast iron rule

laid down, as all these forms have their usefulness in properly selected cases. Pure alcohol has undoubted values as an external application, and many persons regard it as a sort panacea for aches and pains. But in giving orders for alcohol the doctor lays himself open to the suspicion that he is aiding those who really wish it for drinking purposes.

Fraud and deceit on the part of patients is another of the troubles the doctor has to contend with. Some one who has been a patient for years comes to the doctor, saying, "I am not sleeping well", or "I am troubled with indigestion." The doctor must depend upon his patient's statement. The patient makes the request for an order for a quart of whiskey. There is no good will come of the doctor arguing with the patient upon the merits or demerits of whiskey in such a case. The man wants it, and if his doctor does not comply with the request, the party will go to some other doctor, and cease to be a patient of the first doctor, who has always attended him.

Very properly the law says that a doctor must not use ergot for criminal purposes, or morphine to supply a dope fiend, but the law does not and should not challenge a doctor's right to use these drugs legitimately, or lay down any directions as to how often he should use them, nor for what classes of cases. There is one thing that is perfectly clear that the medical profession must resist the attempt on the part of any outside body laying down any rule as to how often in a month a doctor shall order any particular drug, and we mean alcohol in any form to be a drug. It is so treated in the Ontario Temperance Act, and is to be sold only for medicinal purposes. The doctors must claim freedom of action in the matter of this drug, as in the case of any other drug.

This leads to another problem. Alcohol in Ontario is now treated by law as a drug, and is to be sold only for sick people; and yet the law makes no provision whereby most of the people can secure this drug. Those who live in Toronto, Hamilton, London, Kingston, Ottawa, Windsor, and one or two other points may have no great difficulty. This is not so in the case of those who are 100 miles away from a vendor. The vendors should be discontinued, and druggists compelled to carry some liquor; or more vendors should be appointed. The present plan does not suit either doctors or people. We are firmly of the opinion alcohol in all its forms should go to the drug store, and be kept of best quality. If it is to be regarded as a drug then it should be handled by druggists only.

We have on a former occasion protested against the requirement that calls for the nature of the disease being entered in the order.

This is quite improper. In no other form of prescription is a doctor called upon to state that his patient has a cancer, or cystitis, or a mammary abscess. This should be repudiated by the entire medical profession.

The number of prescriptions for liquor also should not be considered. This depends upon one's practice, his locality, and how many people may consult him. As long as the doctor satisfies himself that the liquor is for medicinal purposes, the number of prescriptions should not figure in the matter.

The surgeon and specialist have but little trouble. It is the general medical practitioner who has to carry the burdens of the O. T. A. He comes into contact with the family, and upon him the demands may be many. It may call for great judgment and tact on his part to steer the wise or proper course. We contend he should be relieved of this difficulty.

In what we have said we have no adverse comments to make upon the Commissioners, who have great difficulties to contend with. We believe they are doing the best they can to carry out a very defective system. We do think they made a mistake when they quoted the opinion of a certain doctor that 50 prescriptions a month ought to be enough. This might easily do one doctor, and not at all do another, although the latter might be as firm an advocate of temperance as the former. Then, again, the season of the year, and the prevalence of sickness must be considered. It is to be hoped that some new and better system will soon be evolved.

VENEREAL DISEASES.

We ask our readers to study very carefully the very able paper by Dr. J. E. R. McDonagh which appears in this issue. It goes a long way to clear up many doubtful points. His many suggestions on treatment are timely and valuable. On the question of free treatment we are in thorough accord, and believe we have 90 per cent. of the medical profession with us. We agree with him to the limit in what he states regarding the Wassermann reaction. We believe that this may be misleading as a means of diagnosis, and we have long held that it is of almost no value as a guide to treatment. Further, we have many times said that the arseno-benzene treatment might do more harm to the real treatment of syphilis than good. Time is proving that this contention was sound.

ORIGINAL CONTRIBUTIONS

VENEREAL DISEASES AS WE SEE THEM TO-DAY.

BY J. E. R. McDONAGH, F.R.C.S.

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From the Practitioner (British), January, 1920.

GENERAL.

SIX years have now elapsed since the memorable meeting in the Albert Hall, and it would be well, in my opinion, to sum up the successes which have been gained and the failures experienced during this period. It is only by recognizing and correcting these failures, that we can ultimately reach the goal at which we have aimed.

The propaganda work has succeeded in opening the eyes of the public to the dangers of venereal diseases, with the result that patients come up for treatment at an earlier stage than formerly. It has failed to reduce the incidence of venereal diseases. The vivid and exaggerated pictures which have been drawn of the rarer sequelæ of these diseases have given the public false impressions, and victims have become so terrified that there has been produced a venereal neurasthenia, which is infinitely more difficult to cure than the actual disease itself.

Prophylaxis has engaged the attention of many, and is now delegated to a position subordinate to moral training. Although the prophylactic measures used have saved many from infection, at the best it was only shutting the stable door after the horse had been stolen. It was a pity to issue "prophylactic packets," when micturition and washing with soap and water immediately after connection are simpler and just as efficacious. Possibly because of the simplicity of this teaching, which hailed from the medical school at Salerno four or five centuries ago, it was thought that more reliance would be placed by the public upon special outfits. Because mercury has been used for syphilis since the disease came to Europe, when it was confounded with scabies, which had been treated with mercury for hundreds of years before, and because Metchnikoff had found that rubbing calomel ointment into a sacrificed wound on a monkey's forehead—an insult to which the penis is seldom subjected—prevented infection with syphilis, and because potassium permanganate has been used in the treatment of gonorrhœa for so long, it was thought that the outfits should contain both calomel and potassium permanganate. As a matter of fact, tubes containing a semi-liquid colloidal mercury cream, and supplied under the name of

serenol, are equally as good and certainly more convenient than the dual outfits. In the first place, it is one thing to prevent organisms from growing but quite another to kill them when grown. In the second place, it was never advised that surgeons should sterilize their hands with that particular antiseptic which (in a test tube) most easily killed the organism they were going to meet. In the third place, surgeons have recognized for years that in sterilizing their hands before performing an operation, washing with soap and water is the most important step. In other words, with our prophylactic packets we have traversed the same ground which we trod between the antiseptic period of Lister and the aseptic period of to-day, without noticing the reiteration.

Moral teaching may be all very well in theory, but it will not be very productive of success in practice, unless propaganda becomes extended so far as to reach every individual, not on one occasion only but on several.

Let us now turn our attention to another aspect of the problem which has emanated from the antivenereal legislation, namely, free treatment. This, in the first place, means that each taxpayer is paying for another's misdemeanours and, may be, the innocent for the guilty. So far as the Lock Hospital is concerned, I never thought free treatment would be a success—an opinion which I hold now more strongly than ever. We have not the same control over the patients as when they paid, be it ever so little, and patients are not so regular in their attendances as they used to be. The more uneducated the man is, the less value he places on anything he gets for nothing; while the educated take advantage thereof, and come for a treatment which they could well afford to have in private.

The disadvantages following free treatment are by no means only on the patients' side, for the institutions, to get as big grants as possible, are not guiltless of *finesse*. For instance, of a patient is examined, that is one visit; if he has an instrument passed *intra urethram*, it is another visit, and the same if he has an injection or a pathological examination. In fact, the same patient can be reckoned as four visits each time he appears, and so it becomes disadvantageous to cure a patient too quickly.

As pathological examinations are well paid for, an enormous number of unnecessary ones are made. Also, pathology being the path of least resistance, the medical officer, who is often not too well versed in clinical matters, resorts to such examinations to the detriment of clinical medicine. From this follows the still further disadvantages that a patient believes in nothing but the result of a pathological test. Another great disadvantage resulting from the free treatment is, that most of the

institutions have come within the jurisdiction of a department which is attempting to standardize treatment and pathological tests, with consequences which must be disastrous to all concerned. The moment standardization becomes paramount, healthy competition is removed and a stationary state produced instead of an advancing one, which is contrary to the fundamental law of the universe. Medicine of all sciences is the least capable of being standardized, because at present it is the least exact science and certainly the most illogical.

This brings us to the point where we can view the pathological domain of venereal diseases, upon the foundation of which the whole of the organization of the venereal problem has been raised. It is the realization of the instability of this structure which will cause the public to be our judges.

An illustration or two of this argument will make it clear. To-day patients demand a blood-test after their course of arseno-benzene, and, if the result is negative, refuse to take the intermittent treatment, which is the most important part of the programme. Most patients demand a blood-test every six months, and prefer at first to interpret the results themselves; but when later they get two negatives and two positives or develop a clinical recurrence with a negative test, you are asked askance what it all means. Many patients suffering from gonorrhoea demand a smear before undergoing a urethral and rectal examination, and are prepared at first to pin their faith upon the result. Men who have had syphilis, and who, on clinical grounds, have been legitimately allowed to marry, have committed suicide on finding after the event that their blood was positive. I do not hesitate to say that venereal pathology, as at present constituted, is a curse to both patient and doctor.

No mention is made, throughout these six years, of the clinical diagnosis and treatment of venereal disease, a knowledge of which will do more to save the suffering of the infected than all the pathological tests put together, however perfect they might become, not to mention the pocket-saving to the taxpayer. Having combined my clinical with my pathological work, being one of the first to do the tests now in use, and having spent hours a day for several years with the hope of being able to unravel the mysteries of such tests, I will tabulate here the results of the former and will refer in more detail below to the results of the latter.

1. The *Spirochaeta pallida* can be demonstrated by most observers is only 60 per cent. of chancres.

2. A negative Wassermann reaction means nothing, while a positive is only strong presumptive evidence that the patient has had syphilis.

A positive reaction does not necessarily mean that the lesion in question is syphilitic, nor that the patient is actively syphilitic, nor that he requires treatment. A positive reaction may be an indication of the patient's protective action against the disease.

3. Owing to the varied morphology of Ducrey's bacillus and to the difficulty encountered in demonstrating it, scraping a soft sore is in most cases futile.

4. In sub-acute, chronic, and recurrent cases of gonorrhœa, in both men and women, the gonococcus cannot be demonstrated in more than 15 per cent. of the cases.

5. A positive complement fixation test in gonorrhœa is frequently an indicator of the patient's resistance against the disease, but it by no means signifies that the disease is active or that the patient requires treatment.

A clinical diagnosis of any visible lesion should not be accompanied by so much as a 1 per cent. error. Clinical observation and experience are the only reliable guides when it comes to a question of deciding whether the patient has an active lesion or not; whether further treatment is required or not, and whether a patient is fit to marry or not. As a very large number of syphilitics, for the remainder of their earthly existence, give a positive Wassermann reaction, which is uninfluenced, or only temporarily influenced, by treatment, more good can be done by telling the patient that the reaction is useless as a guide to treatment than by prescribing an unlimited number of courses of arseno-benzene. To-day, venereal diseases are suffering from being over-treated; especially in this the case with gonorrhœa. Over-treatment for syphilis has two dire results, (1) metallic intoxication; (2) nervous implication. These two complications have become of such daily occurrence, the clinical pictures presented are so diverse, and mistaken diagnoses are so frequently made, that I must refer the reader to a full account of them.¹

METALLIC INTOXICATION.

All metals when they act as poisons produce the same symptoms, although one condition may be more readily brought about by one metal than by another. Mercury most readily causes stomatitis, but arsenic frequently does so, a fact not generally known. Both mercury and arsenic produce intestinal congestion, polyneuritis, hepatitis, and nephritis, although we are more accustomed to meet with jaundice, acute yellow atrophy, and uræmia caused by arsenic than by mercury. Mercury seldom produces a dermatitis, while arsenic frequently does so. Both mercury and arsenic can produce endothelial degeneration, as

witnessed by hemiplegia and paraplegia setting in suddenly after a course of arseno benzene.

When metals act as slow poisons, the changes which take place in the organs are mesenchymatous rather than parenchymatous, *i.e.*, the supporting tissue in contradistinction to the cellular is attacked. Mesenchymatous changes are unfortunately degenerative and progressive before they are recognized. The mesenchymatous changes produced by metals do not differ from those wrought by any chronic poison or from those which naturally occur *in corpore* when a disease becomes chronic. Every reader is aware of the empirical use of iodine when there is fibrous tissue formation, *i.e.*, in the chronic stage of most diseases. As I have shown that iodine acts by increasing the sulphur metabolism, and that the latter is the body's sheet anchor when the above-described condition of affairs exists, it now becomes clear why I have continuously advocated colloidal iodine and intramine in the chronic stage of most infections, in preventing metallic poisoning, and in overcoming it if on being. Since I advocated intramine in arsenical poisoning, others have employed ordinary sulphur, colloidal sulphur, and ichthyol, which are valueless.

Why is it that no sulphur preparation so far prepared is as active as intramine? The activity of metals and non-metals depends not upon their chemical but upon their physical action. For a metal or non-metal to exert its full action it is necessary for it to be in such a condition as to be readily taken up (absorbed) by the protein particles (resisting substance or antibody), the action of which it is going to accelerate. There is no such thing as killing organisms *in corpore*, directly, and, in my opinion, phagocytosis of living bacteria never occurs in the body but only in the laboratory.

Protein, owing to its unique chemico-physical molecular configuration, will most readily take up another body similarly constituted, and then bodies which have a large molecule containing amino-groups (NH^2), especially if such amino-groups are in the ortho-position to the active element. In other words, when intramine is used much more sulphur is taken up by the protein particles than from any other preparation of sulphur. This is the reason why arseno-benzene is so much more active than Fowler's solution, colloidal arsenic, or atoxyl. There is greater need to employ the best remedy at the earliest possible opportunity, when the body is suffering from a chemical poison, than when it is suffering from a disease. Therefore, to prescribe ordinary sulphur in the place of intramine, in the case of metallic poisoning, is like placing a gun without cartridges in a man's hands and then expecting him to bring down birds.

There is scarcely a biological or industrial so-called chemical reaction in which the physical action is not more important than the chemical. In the former, we have the excellent examples of intramine—a non-metal—overcoming metallic poisoning, and colloidal manganese—a metal—overcoming mustard-gas poisoning. It was the curative effect which metals exerted in yperitis, which forged the final link in my theory of oxidation and reduction. In industrial chemistry, we have the action of sulphur—a non-metal—in the vulcanization of rubber, and the action of manganese—a metal—in the drying of oils. In addition, mention may be made of the action of metals in the polymerization of butadiene to synthetic rubber, the hardening of liquid fats and fatty acids by hydrogenation, the production of light by means of incandescent mantles, etc.

In all these reactions the element acts catalytically, *i.e.*, as a substance which changes the velocity of a reaction without itself being changed by the process. Broadly speaking, catalysts are colloidal, which is only to be expected, for a colloid is a dynamical state of matter in contradistinction to a crystalloid which is a statical condition of matter. Medical men of the present day, owing to the bustle of life which gives them little time for reading, are apt to regard a subject as beyond their reach if the word colloid appears therein. This is a misfortune, because, as every drug has to become converted into the colloidal state before it can exercise its action, no important advance will be made in the future unless the purely chemical action is made subordinate to the colloidal and physical actions. The whole subject of chemotherapy, the whole subject of immunity, the whole subject of staining, etc., are in the main physical actions exhibited by colloids, actions which are easy to comprehend and actions which reduce the three from mystery to simple fact.

Just as mercury came to be regarded as a specific for syphilis because syphilis was thought to be a modified form of scabies, so did arsenic come to be used because the causative organism of syphilis was considered to belong to the same group of organisms as the trypanosome of sleeping sickness. Neither mercury nor arsenic are specifics for syphilis: first, because there is no such thing as a specific; secondly, because mercury acts in virtue of its atomic weight, producing an effect inferior to that obtainable with thorium (Hg. 20.6 Th. 232.4); thirdly, because metals act as oxidizing agents of which mercury and arsenic are not good examples; and fourthly, because their are more protein particles in circulation to which they can become absorbed in syphilis than in any other disease. Another reason why arsenic was used was because it is one of the easiest elements to work with, for it can act both

as a metal and as a non-metal. Furthermore, the exclusive use of metals completes only half of the chemotherapeutic programme, because, based as it is on oxidation and reduction, it is impossible to obtain the best results unless the dual action is brought into play. As the reducing action of the protein particles is regulated by non-metals and in all living cells by sulphur, the reader can now appreciate the boon the introduction of intramine has been.

As sulphur is the non-metal acting *in corpore*, intramine becomes *ipso facto* non-toxic. As iron is the metal regulating the oxidizing action *in corpore*, and as manganese is more closely related thereto than any other metal, it is now clear why I should have advocated the use of these two metals, which are non-toxic compared with such metals as arsenic, antimony, and silver. Because intramine will prevent and overcome the toxic action of metals, it has been supposed that its use with arseno-benzene and mercury would lessen the action of the metal. This is not so. It is true that, in industrial chemico-physical reactions, the presence of a non-metal may interfere with the catalytic action of a metal and *vice versa*... But here one is dealing with a single action. In the body, owing to the fact that protein has both a positive and a negative electric charge, an action exhibited thereby can be of a dual nature. As an element does not act as a poison until its maximum therapeutic effort has been spent, and as a parallel exists between oxidation and reduction and the dual action of protein, the simultaneous use of metals and non-metals is not contra-indicated, but, on the contrary, strongly indicated. Intramine will not only increase the therapeutic action of arseno-benzene and mercury, but it will also prevent metallic intoxication and cause the symptoms of such to vanish if it is prescribed quickly enough. Finally, its action is increased by iodine.

Since I have included intramine in the treatment of every case of syphilis, I have not had a single instance of metallic poisoning, within a period of nearly five years.* In all early cases of syphilis, 2.5 ccm. of intramine should be injected intramuscularly after the fourth or fifth intravenous injection of arseno-benzene, either once or twice. In all late cases of syphilis, one or two injections of intramine should precede any treatment with metals. If the case of metallic poisoning is urgent, 100.0 to 300.0 ccm. of colloidal iodine should be injected intravenously, and at the same time 2.5 ccm. of intramine should be injected intramuscularly into each buttock. The three injections are repeated in five days, if necessary. If the case is not urgent, colloidal iodine can be prescribed internally (3 iij *ter in die*) and 2.5 ccm. of intramine injected intramuscularly every five days until the trouble has vanished.

* Since the above was written, I have just had a case which presented a mild toxic jaundice, which quickly vanished under another injection of intramine.

NERVOUS SYPHILIS.

For the past eight years I have attempted to draw the attention of the profession to the increase of nervous syphilis, to the factors responsible for it, and to the way in which it can be checked. If the increase continues in the ratio it is now doing, syphilis will soon have to be regarded as a nervous disease. It may be taken as tolerably certain that in every case in which the organisms become generalized, they do so almost as thoroughly and at about the same time in the nervous as in the systemic part of the body. Although their generalization in the nervous part may produce neither signs nor symptoms, any late manifestation is not due to a fresh entrance or generalization, but is dependent upon the first which, in my experience, approaches its height about the eighteenth week after infection.

As drugs do not so readily pervade the nervous as the systemic part of the body, and as the protective substances (antibody) circulating in the blood form a very strong pillar of support for the nervous part, it can be readily understood that this pillar must *ipso facto* cease to exist as soon as the protective substances are destroyed in the systemic part. As the action of treatment is to destroy the protective substances, are destroyed in the systemic part. As the action of treatment is to destroy the protective substances, and as the systemic part is sterilized before the nervous part can be, it stands to reason that a stimulus is given to the organisms in the nervous part to multiply to their heart's content. This is the reason why we see early nervous syphilis most frequently between the eight and sixteenth week after the completion of a course of arsenobenzene and mercury. Note that this is the same time as recurrent chancres appear, so often diagnosed wrongly as fresh infections.

The organisms apparently reach the nervous system *via* the blood vessels, when they involve the meninges (mainly dura) and nerve tissue proper, and *viâ* the choroid plexuses and meninges by filtration, whereby they circulate in the cerebro-spinal fluid, and involve the meninges (arachnoid and pia) and the nerve tissue proper. The various routes along which the organisms travel and the various structures involved explain the protean character of nervous syphilis. As, broadly speaking, no two cases of nervous syphilis are exactly alike, it is difficult to imagine that there is a special strain of organism which shows a particular affinity for nerve tissue, a belief which becomes still less probable when nearly every nervous lesion has or had a vascular or meningeal origin. Vascular lesions in the brain lead in early syphilis to

hemiplegia and *Encephalitis haemorrhagica*, and in late syphilis either to encephalomalacia, if the degeneration is primarily vascular, or to degenerative encephalitis (G.P.I.), if the degeneration is primarily nervous, the latter resulting when the organisms develop extramurally. In the cord we have, in early syphilis, paraplegia, and in late syphilis either myelomalacia, evidenced by chronic anterior poliomyelitis and amyotrophic lateral sclerosis, or degenerative myelitis (tabes).

Meningeal lesions in early syphilis remain either wholly meningeal, or cause, by adhesion to and compression on the subadjacent nerve tissue, meningoencephalitis, of which the most common symptoms are epilepsy and cranial nerve palsy and meningo-myelitis, of which the best clinical example is an irregular Brown-Séquard syndrome. In late syphilis, meningeal lesions (arachnoid and pia) cause degenerative encephalitis (G.P.I.) and degenerative myelitis (tabes). In early syphilis generalization is the rule, and in late syphilis, localiation. In early syphilis, an involvement of the arachnoid and pia leads to a generalized leptomeningitis. In late syphilis, it is natural to suppose that the organisms would settle down in certain favoured spots, such as in the termini and deepest parts of the sub-arachnoid lake. Clinically, they seem to do so, as evidenced by (1) optic atrophy—terminus of a sub-arachnoid space, (2) third nerve palsy—deep interpeduncular space, (3) cervical tabes—terminus caused by bulging produced by cervical plexus, (4) lumbar tabes—terminus caused by bulging produced by lumbar plexus. In most cases of degenerative myelitis (tabes) the primary lesion is in the posterior nerve roots—termini of the sub-arachnoid space. All these lesions are most likely to occur if the systemic part of the body is sterilized by treatment and the nervous part is not. If such a state of affairs is produced in early syphilis, the lesions will be mainly meningeal and at first non-degenerative, while, in late syphilis, they will be mainly nervous and degenerative.

The neuro-recurrences occurring in early syphilis recover under further and appropriate treatment, but a certain percentage develop a degenerative lesion later, and they are most apt to occur when no intermittent treatment for one or two years follows the initial treatment with arseno-benzene and mercury. The late neuro-recurrences are met with when a man in a perfect state of health and in the dormant stage of the disease is made to undergo a course of treatment merely because his blood is positive.

How can this increase of nervous syphilis be diminished? It can be diminished by remembering three rules: (1) The intermittent treatment for two years is more important than one or more courses of arseno-benzene and mercury; (2) the use of metals only, by depressing oxidation

and thereby depriving the nerve tissue of the oxygen it most urgently requires, renders the nervous part a *locus minoris resistentie*; (3) never treat a man in the latent stage, if he is clinically sound, if his blood or even his cerebro-spinal fluid is positive. Since I have incorporated intramine in my maximum course of arseno-benzene, and have prescribed intermittent treatment by mercury, intramine, and iodine afterwards, I have, in the course of four years, only had one neuro-recurrence—a case of unilateral optic neuritis. Within the same period in cases not so treated, I have come across over 100 cases of neuro-recurrence. Being frequently asked if the present-day treatment has diminished the incidence of tabes and G.P.I., I should like to state that, in my experience, both are more common and set in earlier than used to be the case. Caution should be observed in advising a man to undergo treatment merely because his cerebro-spinal fluid is pathological, because (1) the fluid may become normal without treatment and without nervous symptoms arising; (2) treatment may render such a fluid nearly normal, but, in so doing, it may precipitate an incurable lesion.

SHOCK.

Shock² is a subject which must interest all who employ intravenous medication, besides being one which has been rendered well-nigh incomprehensible by the words, etc., which have been coined to explain its *rationale*. The clinical picture is too well known to need description here, so it will be best to open the subject by stating that shock, anaphylaxis, allergy, hypersensitiveness, nitritoid crisis, etc., are all words for the same phenomenon—a phenomenon which results when certain changes take place in the colloidal character of the protein particles. These changes are, as a rule, wrought by an increase of "acidness" or "alkaliness," to use two simple but horrid words, of the blood or by a direct tacking on (adsorption) of another colloid (protein) perfectly emulsoid. The changes which take place in the protein particles are (1) precipitation with increase in the size of the particles; (2) going into true solution. Both diminish and may even prevent the normal functions of the particles, the chief of which are those of oxidation and reduction.

If a drug like aluminium hydroxide is injected intravenously into a rabbit, death takes place instantaneously; so, too, if silicic acid is injected. If both are mixed before and then injected, or if both are injected simultaneously, one into one ear and the other into the other ear, death does not occur. When death occurs, complement vanishes from the blood. The aluminium hydroxide increases the "acidness" of the blood (raises the hydrogen ion concentration), while the silicic acid does the opposite. As death does not occur when the substances injected are neutral, and

complement does not disappear when this state is reached, it is perfectly clear that complement is the balance between the "acidness" and the "alkaliness," *i.e.*, is the normal hydrogen ion concentration or standard alkalinity of the serum. This equilibrium has to be preserved if the protein particles are to fulfil their normal functions. Death is prevented following aluminium hydroxide, if intramine is allowed to precede or quickly follow it, while in the case of silicic acid death is hastened. Intramine being non-metallic increases the "alkaliness" and therefore neutralises the "acidness" caused by a metal and only aggravates the condition caused by another non-metal, silicon. Therefore a patient shocked by arsenic or mercury will, and does, as I have been able to prove, instantaneously recover if an intravenous injection of intramine be prescribed quickly enough.

WASSERMANN REACTION.

When I found that aluminium hydroxide alone or silicic acid alone, but not both when mixed, would in the presence of complement alter the surface and thereby the permeability of the protein particles, and having learned from my previous experiments that this is what takes place in a hæmolytic system when amboceptor and red blood corpuscles meet in the presence of complement, resulting in hæmolysis, it occurred to me that, if my view was correct, either colloid alone should be able to replace the amboceptor. I found that such was the case, which proved at once that what occurs in the test tube is the same as what takes place in the body in the condition of shock. As hæmolysis is only one way of exhibiting the same colloidal phenomenon witnessed in all immunity reactions—agglutination, precipitation, etc.—it shows that immunity, anaphylaxis, chemotherapy are all different modes of exhibiting the same changes which take place when one colloid like protein meets another. If this is so, why does a syphilitic and not a normal serum give a positive Wassermann reaction, and why do chemo-therapeutic drugs cause symptoms to disappear more quickly in syphilis than in any other disease? The answer to both is the same; it is simply a question of degree or intensity of the exhibition of the phenomenon above referred to. In a syphilitic serum, there are more protein particles than in any other diseased serum; consequently, the physical action revealed by it will be increased in intensity, just as it would be more striking to see in an enclosed space a hundred men rather than one succumb to the dose of gas necessary to kill the former. In the Wassermann reaction, the increase in the number of particles in a syphilitic serum, which undergo a physical change during the time elapsing between drawing the blood and performing the test, is sufficient to upset that neutrality (complement)

which is necessary for hæmolysis to occur, consequently, the red blood corpuscles fall to the bottom of the tube, leaving the liquid above clear (positive reaction). In chemo-therapy, the increase in the number of particles enables more of the metal prescribed to become attached to the protein particles, the action of which it stimulates and accelerates.

Unfortunately, in practice everything is not so simple, for the protein particles when they leave the body can undergo certain physical changes over which one has no control and cannot detect. As these changes may materially modify the result of the complement fixation test, it follows that a negative reaction is always valueless and a positive one means no more than that presumably the patient has had syphilis. No one has a right to draw any other inference. It may be of interest to point out that the results obtainable in the Wassermann reaction, and this applies to all immunity reactions, are cyclical, *i.e.*, there may be just as close a relationship between the most positive reaction possible and a negative reaction as between a negative reaction and one only slightly positive. One of the fundamental laws governing the interaction of colloids is, that an excess of either tends to nullify the usual effect produced when the maximum quantity necessary to bring this about is not over-reached. As good illustrations of this law, mention may be made of the fact that a negative Widal is the rule in the worst cases of typhoid (agglutination); that a negative Wassermann reaction may be obtained in the worst cases of syphilis, because the stage following the ultra-positive reaction is a negative reaction (complement fixation test); that large doses of chemo-therapeutic agents and vaccines are less likely to be followed by untoward results than when small doses are used (chemo-therapy). The truth of the last statement can be practically demonstrated in the use of arseno-benzene. Gradually increasing doses are more likely to be followed by certain toxic manifestations than when maximum doses are employed from the start.

VACCINE-THERAPY.

To get the best results with either chemo-therapy or vaccine-therapy, it is important to have continually in mind that chemo-therapy influences the surface of the protein particles, while vaccine-therapy influences their bodies or substrata. Chemo-therapy aims at increasing the oxidizing action of the protein particles, the actual factor which brings about the parasite's death. As it is extremely easy to overstep the action desired in both chemo-therapy and vaccine-therapy by injudicious use of the various agents, and as the intensity of the surface action will naturally depend upon the state of the substrata of the protein particles, the reader can see that there is an intimate relationship between the

two. Practice shows that it is easier to overstep the mark with metals than with non-metals, and in diseases which are localized than in those which are generalized. Therefore, in such a disease as gonorrhœa, so long as it remains localized to the urethra, satisfactory results can be obtained only when each case is treated individually, and when the greatest attention is paid to the dose and time of its repetition.

In vaccine-therapy, owing to the fact that an immunity is rapidly produced which, if over-reached, will nullify any beneficial result obtainable (excess of colloid), a disappointment which all have suffered who have to do with the immunizing of rabbits against the red blood corpuscles of a sheep for the amboceptor in the Wassermann reaction, when just one more injection may reduce a perfect immune serum to one which has no immunity. Moreover, a general focal and local reaction (mild shock) is apt to occur with any vaccine however non-toxic it may be said to have been rendered, and this, if it does occur, reduces the degree of immunity capable of being produced. Both these disappointments are most apt to arise if too large doses are given and if too long intervals are allowed to elapse between the injections.

As an overdose of a metal may lead to its own oxidation, whereby an increase in the "acidness" of the blood is brought about, it is easy to see that the discordant results obtained in these two important therapeutic branches are due to the fact that the prescribers are not *au fait* with their *modus operandi*. It must be remembered that both chemo-therapy and vaccine-therapy aim at increasing the action of the patient's protective substance, the use of either drugs or vaccines may have the same result as goading a horse to further effort when it has already expended its maximum. This is the reason why mercury and arseno-benzene may do more harm than good in cases of malignant syphilis, and why in gonorrhœa the untimely use of a drug or vaccine may precipitate a complication, or may even make the disease become generalized. As the complement fixation test in gonorrhœa has been revived, and as it was thought anew that it might be employed as a test of cure and as a regulator of treatment, it will be advisable to deal with this part before proceeding with the practical application of the subject in hand. Working with Klein³ on this very subject eight years ago, and having applied the test since to several of the cases then treated with sensitized vaccines intravenously, I have come to the conclusion that the test is useless in both respects, for the following reasons:—

1. A positive test obtained after any vaccine is a sign of the immunity produced against that vaccine, but not necessarily against the disease—*vide* the onset of arthritis after vaccine-therapy, when the maximum degree of positivity or immunity has been produced.

2. The reaction past the most positive obtainable is negative.

3. Clinical relapses are most common when the serological reaction is negative, and recurrence of a positive reaction is not usually accompanied by a clinical relapse. Therefore a positive reaction is often a contra-indication for treatment, and a sign of the patient's good protection against the disease.

4. A positive reaction produced by vaccines not only fails to indicate the degree of immunity against the disease, but it also fails to indicate whether the vaccine should be repeated or when it should be repeated, because the time varies in different individuals from the rise of a beginning positive reaction to the summit of a completely positive reaction to the fall of negative reaction.

We must now compare sensitized vaccines with Thomson's detoxicated vaccines and both with pallamine, trimine, and intramine. Sensitized vaccines in plain urethritis were not of much value, but in the complications of gonorrhœa, when used fresh and intravenously, they were better than any formerly or since produced. Sensitized vaccines are troublesome to prepare, and they quickly deteriorate on keeping, consequently Thomson's vaccine, which is different in these respects and far more therapeutically active in plain urethritis, has marked an extremely important advance in vaccine-therapy. Therefore, so far as vaccines go, Thomson's detoxicated gonococcal vaccine is the best obtainable. It is difficult to compare vaccine-therapy with chemo-therapy, while the one is an adjunct to the other, but, broadly speaking, in my hands, using chemo-therapy alone and vaccine-therapy alone, better results have been obtained with the former than with the latter in cases of urethritis (first attack), in the acute stage of complications by direct extension, and in the complication by metastasis, namely, arthritis. In recurrent urethritis, vaccine-therapy is infinitely superior to chemo-therapy. In most cases a combination of both is better still.

GONORRHOEA.

(a) *Acute Urethritis (first attack)*. Inject intramuscularly 0.5 ccm. colloidal palladium (pallamine) on the first and fifth days, and 0.5 ccm. trimine* on the twelfth and nineteenth days, or three injections of pallamine at weekly intervals. With alkalis and aperients internally and irrigations of potassium permanganate (1-10,000) or tryptoflavine (1-4,000), if the straining properties will not betray the patient, this treatment will clear up many cases, and in all will prevent painful micturition, chordee, etc. If the discharge still continues after the course has been completed, or should a prostatic abscess or epididymitis supervene either after or while the course is in progress, three intramuscular

injections of detoxicated vaccine (2,500^e, 2,500^e, 5,000²) should be prescribed every second day. If, ten days later, the condition is still acute or subacute, 0.5 ccm. and 1.0 ccm. of trimine should be injected at weekly intervals. If the condition is chronic, 1.5 ccm. intramine should be injected and followed a week later by 1.5 ccm. trimine. A complication will only arise in those cases which presented an acute posterior urethritis when first seen. Taking all cases, I have known a complication to occur only in seven cases since March, 1919. If all cases were put under treatment with pallamine while the disease was anterior, gonorrhœa would never cause more inconvenience than a mild cold in the head.

(b) *Acute and Sub-acute Recurrent Urethritis.* A beginner may find it difficult to differentiate a recurrent urethritis from a second attack, if the discharge happens to be profuse. If he remembers that in over 90 per cent. of patients who develop a discharge, having had gonorrhœa before, that it is a recurrence and not a second attack, he will not go far wrong. If he cannot make up his mind and the discharge is profuse, the case may be treated as a first attack, but in most cases it is wiser to prescribe the three injections of vaccine, and wait 10 to 14 days before proceeding further. When the patient is examined after this interval, particular attention should be paid to the urethra, prostate, and *vesiculae seminales*. If the lesion affecting one or more of these organs is subacute, two injections of trimine (0.5 ccm., 1.0 ccm.), followed by one or two of intramine (1.5 ccm.), and another of trimine (1.5 ccm.) should be prescribed at weekly intervals. If the lesion is chronic, three injections of intramine, each of 1.5 ccm., followed by one of trimine (1.5 ccm.) should be the course. In both cases, colloidal iodine should be prescribed internally, and the necessary massage and dilatation undertaken.

(c) *Complication by Direct Extension, including Gonorrhœal Ophthalmia.* Three injections of trimine (0.5 ccm., 1.0 ccm., and 1.5 ccm.) should be prescribed with three days' interval between each. After this a course of vaccines followed by trimine and intramine if the condition is still subacute, or by intramine and trimine if it is still chronic, may be ordered; but if there is much fear of fibrous tissue forming, intramine should be resorted to as soon as possible. If the case is subacute when first seen, vaccine-therapy should precede chemotherapy, while if it is chronic three injections of intramine, followed or not by one of trimine, will be all that is necessary.

(d) *Gonorrhœal Rheumatism and Arthritis.* There is hardly any condition met with in medicine which responds so quickly to treatment

* Trimine is an improved form of colloidal manganese containing colloidal iron and a trace of colloidal zinc in addition.

as gonococcal arthritis does to intramine. However acute the case may be, 1.5 ccm. of intramine should be injected intramuscularly at once, followed by the same dose on the third day, and by 2.5 ccm. a week later.

This course may or may not have to be repeated. The action of intramine may be enhanced in an acute case by an intravenous injection of colloidal iodine (100.0 ccm.) the day before the first injection, or internally (3 iij *ter in die*) in a subacute case for a fortnight before. Colloidal iodine oil should be used locally, and the joint or joints should be moved and massaged as early as possible, to prevent the formation of adhesions. A severe case of gonorrhœal arthritis would never be met with, if an injection of intramine was prescribed the moment the patient experienced any trouble. In this complication vaccines are not called for. To those who wish to try these drugs, let me issue the advice to treat each case individually, and not to put 100 consecutive cases on pallamine, another 100 on trimine, etc., for the latter course can lead only to unsatisfactory results.

VARIA.

As chemo-therapy increases the oxidizing and reducing actions of the protein particles according as metals or non-metals are used, and as these two actions are the combative methods employed by the protein particles to overcome any enemy, be it a parasite or a poison, it stands to reason that the term specificity cannot be applied to the action of any chemo-therapeutic agent. In other words, the chemo-therapeutic drugs mentioned in this article have an application which extends far beyond venereal diseases, as will be seen in a recent article published in the *Prescriber*.⁴

Trimine has an almost magical effect on such lesions as boils, carbuncles, erysipelas, and any very acute septic dermatitis; it will clear up the lymphangitis following a whitlow, and prevent the septicæmia which is so apt to follow. Trimine will cause the disappearance of deep septic lesions, and will prevent a fatal termination of puerperal septicæmia, as I have been able to prove in five instances, but it must be prescribed before the patient is moribund, and therefore is not to be looked upon as a last resort. Colloidal manganese was the only drug which successfully alleviated those suffering from mustard-gas poisoning,⁵ and combined with colloidal iodine and intramine it is beneficial in tuberculous lesions.

Colloidal iodine and intramine are the best antidotes for metallic poisoning, they are the only remedies which will cause the rapid disappearance of seborrhœic conditions which are so apt to follow an increased

"acidness" of the blood, they are invaluable in rheumatism, whatever be the cause thereof, and are far and away the best treatment for *Acne vulgaris* and *Acne rosacea*.⁶ Intramine is also an excellent cleanser and stimulator to chronic sores applied locally and injected intramuscularly.

This work has naturally driven me to consider the life-history of cells, especially the host's protective cells and those undergoing malignant change. Although this is fully dealt with in Part II. of my *Biology and Treatment of Venereal Diseases*,⁷ it may be of interest to state here that the lymphocyte is the most important protective cell. Some at least of the protein particles circulating in the serum have their origin in the protoplasm of the lymphocytes manufactured in the lymphatic glands, spleen, and elsewhere. The plasma cell is only a modified lymphocyte, and the protein particles constituting its protoplasm attack the enemy locally in the same way as the protein particles circulating in the serum do generally. The polymorphonuclear leucocyte is of very minor importance, and probably does no more than remove the dead bodies of the parasites killed by the above-mentioned protein particles. If any cell capable of division—note that the polymorphonuclear leucocyte, which has been regarded as our saviour cell is not so constituted, while the true protective cells are—is stimulated or exerts too great an effort to vanquish the foe it is combating, its protein particles undergo certain changes, which result in the cell becoming foreign to those around. In other words, a state of autogenous parasitism is produced. As I have found that such changes are alterations in the colloidal state, which do not fundamentally differ from those witnessed in the immunity reactions *in vitro*, it follows that there is something common to immunology, chemo-therapy, anaphylaxis, and malignant disease.⁸

FINALE.

If what I have stated is correct, the application of colloidal chemistry, which is, after all, the basis of life, to medicine should enable us to discard the illogical theories and the cumbrous terminology consequent on them which have hampered instead of having aided advance. We can retain the things of practical value which have emanated from such theories, but the lines above have shown that none of the tests upon which so much reliance has been based can be considered more than as adjuncts to clinical work. What it actually amounts to is, that most of us have to be born again, unbiassed by what we knew, before we can enter the

kingdom of clinical medicine—the goal at which every medical man should aim, for the path of clinical experience is the safest to tread.

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THE RED CROSS WORK.

At the annual meeting of the Toronto branch of the Canadian Red Cross Society Dr. G. Fitzgerald, Professor of Hygiene and Director of the Connaught Anti-Toxin Laboratories, University of Toronto, spoke on "World Work of the Red Cross," as outlined at the Cannes Conference. There a peace-time programme was promulgated for the organization, the object of which is: "The improvement of health, the prevention of disease, and the mitigation of suffering throughout the world."

"National voluntary health promoting agencies should be assisted, encouraged, and their work co-ordinated. Closest affiliation with Governmental bodies should at the outset be established in order that their needs may be ascertained, and direction and guidance sought in any measures initiated for the relief of such needs. The assumption of duties already assigned to voluntary, nationally organized agencies should not be contemplated for a moment," said Dr. Fitzgerald.

"The greatest needs of Canada, whether in relation to child welfare, maternal care, extension of public health nursing, tuberculosis, mental hygiene, venereal diseases, or public health education and publicity should be carefully ascertained, and then appropriate measures instituted, always in co-operation with or under the direction of the agency whose duty it is to carry on the particular work. All such effort should be planned with prevention as the motive. Relief, of course, in time of national peril, or disaster, may at any time be a necessary supplementary form of activity.

"It is sincerely to be hoped, since there is the clearest possible definition of the scope of activity of the Red Cross Society, that governmental and voluntary health-promoting agencies will welcome the entrance into their field of this new force, potentially so powerful in material resources and personal service."

CURRENT MEDICAL LITERATURE

INFLUENZA AND TUBERCULOSIS

A survey of the available literature and his own experience have led Maurice Fishberg to believe that influenza has no etiological relation to tuberculosis and cannot be considered as a reactivator of dormant lesion. Tuberculosis patients are not unusually susceptible to influenza, nor is the latter disease more severe in them. He has not observed pulmonary tuberculosis assume an acute, progressive course after influenza. Vital statistics and sanatorium reports do not disclose that in the wake of the recent influenza epidemic there has been an increased mortality from tuberculosis nor that the number of tuberculosis patients has increased. The pulmonary sequelae of influenza are quite generally non-tuberculous and do not require tuberculosis treatment.—Maurice Fishberg. *Influenza and Tuberculosis. American Review of Tuberculosis*, Nov., 1919, vol. III, No. 9.

TOXEMIAS AND THE EYE.

G. H. Bell, New York (*Journal A. M. A.*, Oct. 11, 1919), calls attention to the focal infections as met with in the practice of ophthalmologists. For want of better classification, he designates them under the head of the "three T's" (teeth, tonsils and the toxemias of the intestinal tract), these being the most potent ones encountered. Every patient coming to his office, he says, must stand the "acid test" of the three T's, and the same routine, as far as possible, is carried out in his clinic in New York Eye and Ear Infirmary. Of course, it is understood that, when necessary, syphilis, gonorrhoea and an occasional sinus or tuberculous trouble must be excluded in making the diagnosis. The teeth examination includes inspection of the mouth, palpitation of the gums and roentgenograms of all the teeth, dead or alive, pivots, arches, and bridges. After eliminating the diseases commonly associated with dental infection, he believes there is a growing tendency to attribute degeneration conditions, like arteriosclerosis, etc., to this cause. A number of cases are reported illustrating the influence of dental disease, and he quotes Sir W. Lang, who traced seventy-four out of 200 cases of iritis to defective teeth and stumps. Any part of the eye may be affected, but the greatest number are affections of the iris, ciliary, choroid or cornea. In his opinion the best way to solve the dental problems correctly is to start with the children in the schools. He says that education in dental hygiene is as essential as education of the mind. There should be legal inspection of tooth brushes, as there is a large amount of trash sold in that trade. The dental inspectors should also be taught to examine the eyesight of the children, and pamphlets of instruction should be issued

including, also statements of the evil effect of too much sugar and candies. Bell believes that a dirty mouth is one of the greatest menaces of the human race to-day. The tonsils have been long known to be foci of infection, but are often neglected or overlooked, and when involved nothing less than radical treatment is of much value. Two cases are quoted showing the effect on the eyes of tonsillar disease. Volumes have been written about intestinal toxemias, but little has been told us as to how to prevent them. How often, he asks, do we demand, a urinary examination of our patients? Much space is given to the evils of the excess of sugar consumption. Bell considers it a toxic substance the use of which should be discontinued by children and adults as far as possible. Riggs' disease is not only a serious condition, but is very prevalent, and Bell quotes numerous authorities as to this, and reports cases showing its evil effects. He strongly urges the country to "get right" on the dental question, and calls attention to the value of the roentgenogram as an aid to the diagnosis of deep-seated foci, too apt to be overlooked.

A QUARTER CENTURY OF SERUM THERAPY IN DIPHTHERIA.

In a recent address before the Académie de médecine of Paris, Louis Martin recalled that in September, 1894, Roux communicated to a medical congress in Budapest the results of his pioneer studies on the serum therapy of diphtheria. To physicians of the present generation it seems long ago that Behring and his collaborators, Kitasato and Wernicke, definitely showed that the cell-free blood serum of animals immunized with diphtheria toxin acquires the power to protect other animals of the same and different species against the poison. Yet, in the quarter century that has elapsed since Roux put to the test of human clinical experience the treatment discovered by Behring, what enormous practical advantages to mankind have been derived from these brilliant scientific investigations. The outcome with the first larger group of diphtheria patients who received no other medical treatment than administration of antidiphtheritic serum was so striking that the procedure found prompt recognition from clinicians. Serum therapy in diphtheria became an accepted method. It is unnecessary to dwell on the fact that the mortality in this disease has been reduced from 30 per cent. or more to 8 per cent. or less in practice. The beneficent results can be learned from the experience of every community in the civilized world. The maximum of therapeutic efficiency has not yet been reached. With speedier diagnosis, with more direct methods of introducing the antitoxin, with better concentration and preparation of the latter, and with more heroic dosage in emergencies, the results seem destined to become even more favorable than they have been in the past. Now that

the war is over and men can once more turn their thoughts to activities that are worth while, let us remember that the discovery of diphtheria antitoxin was not an overnight affair or a chance find. Only patient, laborious researches brought ultimate success. In the study of diphtheria, by which such brilliant results have been achieved, the laboratory and the clinic have worked hand in hand. Looking forward to further great discoveries in the domain of medicine, let us not fail to encourage in the case of other diseases likewise this fruitful collaboration between science and practice.—*Jour. A.M.A.*, Dec. 27, 1919.

OBSERVATIONS ON THE CAUSE OF RICKETS

D. Noel Daton, Leonard Findlay, and Alexander Watson (*British Medical Journal*, December 7, 1918).

The authors made their investigations during the course of some experiments designed to produce experimental rickets in dogs in order to secure rachitic animals and normal controls for a study of calcium metabolism.

Former observation in this laboratory (Physiological Laboratory, University of Glasgow), had shown that rickets may almost certainly be developed in certain breeds of dogs by merely keeping the animals confined. Two litters comprising seventeen dogs were used.

Three of the first litter were sent to the country and given plenty of out-door exercise—they returned to the laboratory in good health and on necropsy showed no sign of rickets.

Two dogs of the second litter sent to the country under the same conditions as the first, returned to the laboratory without any evidence of rickets. All éve animals were fed upon oatmeal porridge and skimmed milk. It is estimated that not more than 2.8 grams of fat per days for each pup was contained in their diet.

Five pups of the first litter were confined in the laboratory. They were fed upon oatmeal porridge and whole milk—an estimated fat content per pup of from 3 to 6 grams per day. All showed marked rachitic changes by X-ray examination during life and at necropsy.

The remaining seven of the second litter were kept in the laboratory. Ten grams of butter were given daily to three of them. The food was the same as that of the first litter. Those without butter received from 3 to 6 grams of fat per days and those with butter 14.5 grams. All those kept in the laboratory showed signs of rickets to a greater or less degree. One which had been confined and had butter was most markedly affected. One which was confined and had no butter was least affected. All of these confined showed maimed splaying of the fore feet, distinct rachitic changes of the wrist joints and softening of the femur.

There is no support for the theory of Funk that rickets may be due to the absence of some "vitamine," or of that of Bland-Sutton that rickets may be prevented by the administration of fats.

They conclude that:

1. "Pups kept in the country and freely exercised in the open air, although they had actually a smaller amount of milk fat than those kept in the laboratory remained free of rickets while animals kept in the laboratory all became rickety. The observations seemed to show that some other factor than diet is the prime cause of rickets in dogs and affords no evidence that milk fat (butter) contains any accessory factor protecting against the development of rickets."

HEAT AND TUBERCULOSIS.

Harry Gauss, Chicago *Journal A. M. A.*, Oct. 11, 1919, has studied the effects of high temperature during the hot spell of July, 1916, on the patients in Cook County Hospital, with special reference to the effect in tuberculosis cases. The normal man is supposed to stand the excessive heat strain. For heat stroke it is not unlikely that heat, pure and simple, is the chief factor. During July, 1916, there were admitted to Cook County Hospital 158 patients suffering from heat stroke and exhaustion. But independent of those admitted as frank heat cases, rises of temperature were observed in other patients, greater than might have been expected in the ordinary course of their diseases. In the tuberculosis ward seven patients had temperatures 2 to 3 F. above that due to the usual cause of the disease which corresponded in time with the principal heat wave. Similar observations were made in other diseases, but the tuberculous were taken for special study. Most of them had chronic advanced tuberculosis, and their fever tended to run an even protracted course without marked irregularities. The history of every case in this ward was examined and their temperature records were noted for the hottest five days, and the five days preceding and following. Fifty-six cases were thus observed, and their morning and afternoon temperatures for each day were averaged and plotted. "It is thus seen that in the five days preceding the heat wave, July 20 to 25, the average afternoon temperature varied between 99.5 to 100 F., in the five days of the heat wave, July 26 to 30, the afternoon temperatures varied from 100.5 to 100.8 F. and in the five days after the heat wave the afternoon temperatures varied between 99.7 and 100 F. The striking factor is that during the heat wave the average afternoon temperature was 100.62 F. as compared to 99.8 and 99.86 F. for similar periods preceding and following it." Gauss concludes that the increased temperature during the foregoing period was probably caused by the high air temperatures and unfavorable air conditions.

PERSONAL AND NEWS ITEMS

Dr. D. Fuller McKinley, formerly of West China, (late of C.A. M.C.), begs to announce that he has located in Toronto and will devote his attention to Eye, Ear, Nose and Throat work, including Bronchoscopy, at 863 College Street.

Mrs. T. R. Hanly, wife of Dr. Hanly, of Toronto, died at her home, 124 Bloor St. West, of pneumonia. Before her marriage she was a graduate nurse of the Toronto General Hospital.

At a meeting of the Anti-Vaccination League held in the Allen Theatre, St. Clair Avenue, Toronto, a resolution of disapproval of the action of the Provincial Department of Health in seeking to make vaccination compulsory, and a declaration that thereby a great deal of harm had been done to Toronto, was passed, the resolution going still further and calling upon the Government to make it illegal for the department ever again to issue a compulsory order, and recommending the substitution of sanitary engineers for medical officers of health.

With thirty new cases of a mysterious post-war type of sleeping sickness reported from Verona, Italy, and instances of the malady under observation in French cities, fears are expressed that the disease may become epidemic.

Dr. G. R. Reid, formerly of 192 Bloor St. W., wishes to announce that he has resumed his practice at 56 College Street. He will confine his practice to radiography and radiotherapy. Accommodation has been made for fluoroscopic examination and for the setting of fractures.

Announcement is made that Mrs. G. T. Fulford, widow of the late Senator Fulford, has given to the Forward Movement of the Presbyterian Church the sum of \$5,000, with which to establish a hospital unit in Western Canada, to be provided with two nurses a deaconess and a conveyance.

The provision of suitable hospital facilities for accident cases in the Kirkland Lake and Larder Lake gold districts was urged by Coroner Dr. Kane of Vobalt at the adjournment of the inquest upon the body of Peter Horne three weeks ago. Dr. Kane said it was a question either for the mines themselves or for Workmen's Compensation Board, and the jury, in bringing in a verdict of "accidental death," added a rider embodying the Coroner's suggestions.

The upper floor of the Town Hall at Cobalt was converted into an emergency hospital for influenza cases.

The Board of Health for London, at a recent meeting, did not regard it as necessary to close the theatres and schools because of the influenza epidemic.

Dr. Julian London, of Toronto, was appointed to make a thorough enquiry into the causes of the wreck at North Bay of a C.P.R. train, with considerable loss of life.

In the hope of obtaining higher per diem grants from the Provincial Government towards the cost of caring for public ward patients in the Ontario hospitals, representatives of these institutions waited upon the Government to press their claims. The hospital superintendents and the representatives of the hospitals receiving Government grants met at the General Hospital recently, and decided to form a Provincial Hospital Association. They also decided to ask for an increase in the city per diem grant from \$1.25 to \$1.75 per patient, and in the Government per diem from 30 to 75 cents per patient.

The City Hospital Governors, of Hamilton, will join with St. Catharines in asking the Government for a larger grant for patients. The grant now is 7 cents for children and 30 cents for adults. The Governors think it should be raised to 30 and 75 cents. Dr. Langrill, the Medical Superintendent, says that it costs on an average of \$2.87 a day for each patient.

Dr. Ethel Hayes announces that she is opening her office at 467 Spadina Ave., Toronto, paying special attention to the diagnosis and treatment of tuberculosis. Phone, Coll. 1596.

Dr. J. A. Morgan has been appointed temporary medical officer of health for Peterboro during the illness of Dr. A. W. McPherson, M.O.H. Dr. Morgan states that a number of influenza cases are coming to his notice, but so far no serious epidemic is anticipated in the city.

Incorporation has been granted to the Kingston Clinical Association, Ltd., with a share capital of \$100,000. The purpose of the association is to conduct a medical clinic which will supply a standardized, systematic examination. Specialists in each branch of medicine will be in charge and all modern science equipment will be used. The association has purchased from the Anglican Synod, for \$12,000, the property upon which the Public Library now stands and the land adjoining to the extent of 135 feet frontage on Bagot Street, and a suitable building will be erected thereon. This is the first clinic of the kind to be established in Canada. Prof. W. T. Connell will be director of the clinic.

Considering that he can give greater service to Canada by devoting his whole energy and talents to the work of the Canadian National Committee for Mental Hygiene, of which he is medical director, Dr. C. K. Clarke, Dean of the Faculty of Medicine at the University contemplates resigning that position at the end of the present term. Dr. Clarke has held the position since 1908. Dr. Clarke is a graduate of Toronto University and has held many important public positions. He was at

one time assistant superintendent of the Hamilton Asylum, superintendent of the Rockwood Asylum, the Toronto Asylum and superintendent of the Toronto General Hospital. He is regarded as one of the greatest authorities on mental diseases in the whole Dominion.

Professor Maggiora of Bologna University is reported to have succeeded in isolating the germ of sleeping sickness in the blood of patients. He is now said to be preparing a serum to combat the disease.

Dr. Herbert Eldon Roaf, and Prof. Thomas Swale Vincent have been appointed to the chairs of physiology at London University. The former was educated at Upper Canada College and Toronto University and has since worked at Liverpool. During the war he was in charge of the pathological laboratories at Cairo. Prof. Vincent has since 1914 been professor of physiology at the Manitoba University.

Superintendent Dr. R. E. Johnson of Spadina Hospital (S.C.R.) has been dangerously ill with pneumonia following influenza, and for a time his condition was considered very critical. Dr. Johnson, who had been doing untiring work at the hospital with flu patients, had a temperature of 104 point 4, but owing to the fact that his sickness was arrested early he is improving satisfactorily. Spadina hospital has been the central station for all influenza patients under the Civil Re-establishment, which necessitated steady duty and long hours for the staff, but until the exception of Dr. Johnson the medical and nursing members have so far escaped serious illness.

Dr. C. C. Alexander has been appointed medical inspector of the schools of the city of Brantford at an initial salary of \$1,500 per year. The appointment is an innovation following on the recommendation of the local health authorities and various other organizations.

Dr. C. M. Sellery, son of Rev. Samuel Sellery, formerly of Queen Street Methodist Church, and a brother of Mrs. C. E. Taylor, Kingston, is going to China as a medical missionary. He served overseas with a field ambulance for two years, and is a graduate of Queen's University.

There have been a number of deaths from sleeping sickness throughout the country. It does not appear to become at all prevalent, and its infectivity is evidently not great.

A deputation from the Weston Sanitarium applied to the Toronto Board of Control for a grant of \$75,000 in aid of the institution. It was stated that 65 per cent. of the patients come from Toronto. It was agreed that the Board of Control see the Government with the view of securing provincial aid to what the city might give.

It is contended by some experts that the sleeping sickness and Spanish influenza are the same; and Dr. Folley, of Paris, claims to have

found a preventive and curative serum. It is being tested in Paris and New York.

The effort to raise \$500,000 in aid of the forty-seven charities of Toronto, the fund being called a community service, realized \$303,000. It is hoped that further donations will be made to the fund. The needs of these charities are often pressing and large. At least \$380,000 is required for the year.

There is much talk of the city of Toronto securing the old General Hospital for the purposes of establishing an Isolation Hospital. This should be done at once. The site is large and well located. Such sites are now very rare in the city. Such an institution is absolutely necessary, and now is the time to act. The city would be making no mistake to purchase the old General Hospital for measles, chicken pox, scarlet fever, and diphtheria.

OBITUARY

SIR JAMES GRANT, M.D., K.C.M.G.

Sir James Grant, one of two survivors of the first Parliament of Canada, died on 6th February, at 3.40 o'clock in St. Luke's Hospital. Sir James fell outside the Russell House and broke his femur on 20th January, and since that time was confined in St. Luke's Hospital. He had been rapidly losing strength during the last week.

Sir James Alexander Grant was born in Invernesshire, Scotland, on 11th August, 1831, and was descended from an able and distinguished family. His grandfather was James Grant, advocate at Corrimony, among whose literary productions were essays on the origin of society and "Thoughts On the Origin and Descent of the Gael."

Sir James' father was Dr. James Grant, who came to Canada from full speakers in Canadian history. As a public speaker he was famous to Edinburgh, and practised for many years in Glengarry.

Sir James Grant was educated in Queen's and McGill Universities. He has practised medicine in Ottawa since his graduation in 1854, and attended several Governors-General and distinguished visitors.

He was President of the Ontario Medical Council in 1868, and later President of the Canadian Medical Association. He was elected Vice-President of the Department of Surgery at the International Medical Council in Philadelphia in 1876, and was an honorary member of the British Medical Association and Academy of Medicine, fellow of the

Geological Society, of the Royal College of Physicians and the Royal College of Surgeons in London and Edingburgh, and was President of the Royal Society of Canada in 1901. He was an honorary Vice-President at the International Medical Congress of the World, held at Washington in 1887. He also belonged to several societies in Italy.

For about fifty years he was a member of the Medical Council of the Ontario College of Physicians and Surgeons, representing Regiopolis College, Ottawa.

In Queen's Jubilee year he was awarded a K.C.M.G., the first Canadian physician to get that honor. Sir James carried many titles and honors, and at various times was President of numerous societies in Canada. His lectures on tuberculosis and the simple life, and on how to live a hundred years, won him widespread recognition.

Sir James entered the Dominion Parliament in 1867 as Conservative member for Russell. He sat until 1874, and later was returned as member for Ottawa City—1893 to 1896. He introduced the original Pacific Railway Bill, which fathered the project for a transcontinental railway in Canada. He also supported the admission of the Northwest Territories and British Columbia into Confederation. He was one of the most forceful last days of his life, but of recent years has rarely been heard in public. He wrote many valued articles on medical matters, chiefly for the medical journals.

Sir James was one of the founders of the Ottawa St. Luke's Hospital; he was a prominent member of the St. Andrew's Society and of the Literary and Scientific Society, and took an active part in the Society for the Prevention of Tuberculosis. In religion he was a Presbyterian.

Lady Grant is the daughter of the late Edward Malloch, who represented Carleton in the Legislative Assembly. The Grants were married in 1856. Of their twelve children, seven survive, four sons and three daughters. They are: Lieut.-Col. James A. Grant, of Ottawa; Dr. H. Y. Grant, Niagara Falls; E. C. Grant, Ottawa, and W. W. Grant, Geneva, N.Y., and Mrs. George Major, Toronto; Mrs. Harry Cassells, Ste. Anne de Bellevue, Que., and Miss Harriet Grant.

The funeral of the late Sir James Grant, K.C.M.G., took place with befitting honors to one so long and honorably known in the public life of the Dominion of Canada.

The Government was represented at the funeral by Hon. Martin Burrell, His Excellency by Lord Richard Neville.

The Royal Society of Canada, was represented by Dr. C. Gordon Hewitt and Dr. Duncan Campbell Scott. Many old friends of the late knight attended and several old members of the medical profession were noted in the procession.

HERBERT JAMES HAMILTON, M.D.

Whole-hearted exertions in combatting the "flu" epidemic contributed to the death at 3.30 a.m. on 5th February, of Dr. Herbert J. Hamilton, ex-president of the Academy of Medicine, who succumbed to pneumonia and heart trouble at Wellesley Hospital.

He had been sick for some three weeks, but had carried on with his duties until last Sunday, when he collapsed in the house of one of his patients, whom he was treating for the "flu".

Dr. Hamilton was a widower and is survived by a sister, residing in Guelph, and an aunt, Mrs. Alexander, of Toronto. He was a member of the Council of the Academy of Medicine and senator of the University of Toronto.

The late Dr. Herbert J. Hamilton was a man of great personal popularity, both with his patients and with his fellow practitioners. Born about fifty-five years ago at Brampton, he was the son of Richard Hamilton, a well-known farmer and local politician. His mother was a sister of the late Dr. J. E. Graham of this city.

He was educated at Brampton High School and Toronto University, graduating from the old Toronto School of Medicine in 1885.

He came to Toronto in 1894 and associated himself with Dr. W. P. Caven. His wife, who was a daughter of the late John Aikens of Brampton, died about three years ago.

Dr. E. E. King, the president of the Toronto Academy of Medicine, says of him:

"When he was president of the academy he was both loved and honored by all its associates and his death is a great loss to that institution. He was devoted to and intense in his work and had a very large practice. Nothing was too much trouble to him."

The late Dr. Hamilton was physician to the St. Andrew's College and had been practising in the City of Toronto for over thirty-five years.

The funeral services were conducted by Archdeacon Cody, who spoke of Dr. Hamilton's many fine qualities. The Principal of St. Andrew's College said that he had been both friend and physician to the boys for twenty years, and loved by all of them.

Pallbearers: Drs. W. P. Caven, H. B. Anderson, Edward E. King, Herbert Bruce, George H. Bowles, Joseph E. Graham, Fred. C. Harrison and W. H. B. Aikins.

Among the many beautiful floral tributes received were wreaths from the Ontario Medical Association, College of Physicians and Surgeons, Academy of Medicine, St. Andrew's College, and the Aesculapian Club.

The remains were taken to Brampton for interment.

MAJOR HARRY A. KINGSMILL, M.D.

Major Harry A. Kingsmill, M.D., a well-known army officer and member of the medical profession, died recently in London, at his residence, from pneumonia. He was born in London in 1867, the son of the late T. F. Kingsmill. He was educated in London and graduated in medicine from Western University. He took post-graduate work in Europe and became an M.R.C.S. of London, England, and an L.R.C.P. of Edinburgh. He was for more than twenty years an officer of the military, first in the 7th Regiment and later as medical officer of the First Hussars. Upon the outbreak of the war he became president of the Standing Medical Board, through which all army recruits passed in London for three years. Later he reverted to the rank of captain in order to go overseas, where he served in hospitals at Shorncliffe and Folkestone. Since his return he had been registrar and adjutant of the military hospital here. He held the British war medal and the officers' long service decoration. He had frequently been considered as a candidate for Parliamentary honours, but never sought public office. The funeral was under joint military and Masonic auspices. He was a member of Tuscan Lodge, A.F. and A.M. Burial was made at Woodland Cemetery. He is survived by his widow, formerly Miss Annie Smith, of Detroit, and one son, Syndey.

WILLIAM MORROW, M.D.

Dr. William Morrow, fifty years old, prominent heart specialist of Montreal, who had been in practice for the past twenty-five years, dropped dead on 8th February at 6.30 p.m. as he was ascending the stairs at his residence, 157 Hutchinson Street. Heart failure is thought to have been the cause. Dr. Morrow was born in Halifax.

CAPT. D. McDONALD FORD, M.D.

Word was received recently that Dr. D. McDonald Ford of Portneuf, near Quebec, a passenger on board the Royal George, which was due to dock at Halifax on 19th January, had died and been buried at sea during the voyage. Dr. Ford was a Captain in the Army Medical Corps, and was returning to Canada in charge of troops on the Royal George.

ROBERT JOSEPH DWYER, M.D.

The medical profession of Toronto suffered a heavy loss by the death of Dr. R. J. Dwyer on 26th January. After an illness of five months' duration from heart disease.

Born at Brampton, Ontario, the son of the late Michael Dwyer, he graduated in medicine from the University of Toronto in 1892. He took post-graduate courses in England and on the continent, and was honored by being made a fellow of both the Royal College of Physicians and the Royal College of Surgeons, both of London, England. He was professor of clinical medicine at the University of Toronto, and from its inception in 1892 was the chief physician of St. Michael's Hospital.

He was a keen student of natural history, geology, and Egyptology. A favorite pastime with him was to take long trips into the far north country.

He is survived by his mother, a brother and two sisters.

Chief mourners were his mother, sister, brother and Mother Immaculate of London, a sister of deceased. The pallbearers were Dr. W. McKeown, Dr. Guinane, Dr. Brown, Dr. King, Dr. McCormack and Dr. Loudon; ushers, Frank McConvey and J. McGoey. At the end of the mass and before the last absolution was said over the body, Rev. Father Minehan ascended the pulpit and delivered a suitable address.

WALTER W. HOARE, M.D.

Ill a week from general debility, Dr. Walter Westlake Hoare, eighty-three years old, formerly of Strathroy and other western Ontario towns, died on 30th January, at his home, 77 Kildare Road, Walkerville.

Dr. Hoare, who had resided on the border for fifteen years, was the father of Dr. Chas. W. Hoare, former Mayor of Walkerville, and Edward Hoare, of the Dime Bank, of Detroit; Mrs. J. P. Tisdall and Mrs. W. K. Pearce of Toronto, and Miss Georgina Hoare, living at home. He was a member of Euclid Masonic Lodge, Strathroy. Interment took place in St. Mary's Churchyard, Walkerville.

BOOK REVIEWS

THE WOMAN OF FORTY.

By Dr. E. B. Lowry, author of *Herself, Himself*. Forbes and Company, Chicago. Price \$1.25.

All women approaching middle age will be greatly interested in "The Woman of Forty," a vital, new book by Dr. E. B. Lowry, the world's best known writer on health for women. One would suppose that helpful books for women of this age on so important a matter as health would be numerous but such is not the case and hence Dr. Lowry has performed a real service to womankind in writing this needed book, a guide which is dependable in every respect.

At no period of life is a woman more liable to misunderstand herself and be misunderstood than at the "dangerous age" of forty. Upon the care and attention given her body at that time depends her health for the second half of her life. Dr. Lowry's helpful book will remove the fears and troubles which come from wrong ideas about the changes of middle life. With broad vision it considers the physical, mental and spiritual activities and possibilities of women and points the way to perfect health and happiness. The spirit of noble womanhood flows through its pages.

It has been said that the middle years of a woman's life are wasted more than any of our national resources. This should not be; for the women of forty are the women of mature understanding and ripe judgment, still possessing abundance health and strength. As Dr. Lowry says, most of the world's great women have been past middle life when they performed the achievements which made them famous. Every woman in the forties who wishes to be at her best and desires mental and physical growth should read this sensible book,—and it should be read by her husband also. It is a book physicians will recommend to their patients.

This is the tenth volume of the famous sex hygiene books by Dr. Lowry, which have become famous throughout the world because they give the fundamentals of health in such a clear, reliable way that they lead to right living and happiness. The new work is fully equal to the splendid quality of the former books by this able author, and it will be read with profit by thousands of women.

PRACTICAL ORGANOTHERAPY.

The Internal Secretions in General Practice. By Henry R. Harrower, M.D., Fellow of the Royal Society of Medicine, London; Late Professor of Clinical Diagnosis, Medical Department Loyola University, Chicago; Founder of the Association for the Study of Internal Secretions, etc. 268 pages, with 5 charts; cloth; \$2.50. Glendale, Calif., The Organotherapeutic Review, Publishers, 1920.

The author remarks regarding this book as follows:

"I have spent much time in collating this information, and am sure that this material cannot be found between the covers of any single book. In fact data on this subject is very scattered. If you feel that I am to be criticized for my opinions or means of expressing them, or if my having developed a research laboratory of "applied endocrinology" (which is supported by the sale of the various products that we make) in your estimation reduces the value of the book, *i.e.*, because of its commercial aspect, at least give me credit for trying to accomplish something and then consider the book in the same light as we all consider Merck's "Index" or John Uri Lloyd's brochures on eclectic remedies."

We have looked through this volume very carefully and do not hesitate to say that it contains very much useful information not to be found anywhere else. Any one who has this volume can find collected together material that would cost him a vast amount of labor to find scattered throughout medical literature, and even then he would not get it all, as a good deal of it is original with the author. The book is a meritorious effort to shed light on an important field of medical study.

INTERNATIONAL CLINICS.

A quarterly of Illustrated Clinical Lectures and especially prepared original articles. Edited by H. R. M. Landis, M.D., Vol. IV. of 29th series, 1919. Philadelphia and London. J. B. Lippincott Company, 1919. Price \$9 per year.

This is an excellent volume and contains a number of most timely and valuable articles. There are many plates, illustrations and drawings. The work is well printed and bound, and presents a neat appearance. We can recommend International Clinics to all who wish a publication that will keep the reader abreast of the times in medical literature and progress.

MISCELLANEOUS

THE VACCINATION CONTROVERSY

To the Editor of *The Globe*:—While crossing the lake a few years ago a very loud-voiced individual was holding forth in the smoking-room of the Chippawa against vaccination, its uselessness as a protection, its dangers of conveying disease, etc. After a while he turned to me and asked, or rather demanded, "What is your opinion?" Not relishing a controversy, I answered, "I have no opinion to express." Beside me sat one of the worst poek-marked men I have ever seen. He looked up and said, "Like my friend on the right, I have no opinion, but I would like to tell you a few facts."

"I was born in the Province of Quebec, the youngest of ten children. When I was three years old my mother contracted smallpox. The doctor came and vaccinated the family, all but myself. I had hidden in the wood pile and could not be found. We all continued to live in the house with my sick mother. None of the others contracted the disease. You can all see by my face what it has done for me, and that was seventy years ago. These are the facts." A long pause, then with a shake of the head, "No, I have no opinion."

Queenston, Ont.

R. P. Trimble.

REST AND WARMTH CURE INFLUENZA.

Dr. Charles E. De M. Sajous, of Philadelphia, calls attention in the *Medical Record* to the fact that Lt.-Col. Ernest Laplace, who was in charge of the army hospital at Fortress Monroe during the war, had the lowest mortality from influenza of any army hospital—1.3 per cent. And he lays emphasis on Col. Laplace's method of treatment, which was the simplest imaginable, being scarcely more than rest and warmth.

Col. Laplace put his patients to bed, gave them a preliminary purge, made them drink water freely, kept them warm all the time and used no medicine. In other words, he helped nature to fight the germs, and he would not let his patients use up their vitality by moving around and working. Thus all the vitality they had was concentrated upon fighting the disease.

All physicians agree now that absolute rest and warmth are the most important features of any treatment of influenza or "colds".

INFLUENZA DEATH RATE

The mortality rate due to the influenza epidemic this year was about half of that in 1918, said a statement by the Public Health Service of Washington, announcing that the present epidemic apparently had reached its peak.

"A comparison" the statement said of the excess mortality rate per 100,000 of population for the respective peak weeks of 1920 and 1918 shows:

Chicago, 1,886, compared with 4,620 in 1918; Wilwaukee, 1,434, as compared with 1,915; Washington, 2,072, as compared with 9,789.

"These rates may be taken as a fair indication of conditions throughout the country. With the exception of some cities in Massachusetts and New York State, exclusive of New York City, practically all of the reports indicate a decline."

VENEREAL DISEASE CLINICS

Plans of the Provincial Board of Health for waging war on venereal disease have been completed, and announcement has been made of the basis upon which the provincial assistance will be given to municipalities in treating sufferers. The Board is seeking to secure results through the establishment of special clinics, and where a municipality establishes a satisfactory clinic a grant of \$1,000 will be made by the Government for the purchase of furnishings and apparatus, and in addition a grant of fifty cents for each out-patient treated for gonorrhœa or syphilis. For each out-patient free salvarsan will be supplied as soon as the Board is in a position to furnish its own product.

In the case of patients in the hospitals a further sum of twenty-five cents will be paid for each day of indoor treatment up to three months.

The Board proposes to leave to the municipality the choice of a site for the clinic but will suggest that where facilities exist, as in the case of hospitals, these facilities be used. In order to get the grants, the clinic must have a personnel composed of a specialist in venereal diseases satisfactory to the Provincial Board, such medical assistants as may be necessary, one full-time social worker, who is also a graduate nurse, a clerk—if more than forty cases are treated weekly—and a male orderly.

The treatment must be free to the public and clinics must be held thrice weekly—one at night and two during the day.

The plan is to have the social nurse follow up all cases to see that patients continue the treatment.

The provincial scheme is being carried on under the direction of Dr. R. R. McClenahan.

TUBERCULOSIS DECREASING

As the cost of keeping a patient in a consumptive hospital has risen from \$1.16 in 1916 to \$2.30 in 1919, a deputation from various parts of the province requested Hon. E. C. Nixon, Provincial Treasurer, to increase considerably the grant of fifty cents per indigent patient in such places.

It was declared that, taking Hamilton as a comparison, the percentage of tubercular cases has decreased. In 1906 that city, with a population of 59,000, had seventy deaths from the disease. In 1918, with a population of 107,000, it had only fifty-four deaths. Other towns and cities show the same decrease.

FOR MENTAL HYGIENE

Members of the Canadian National Committee for Mental Hygiene were guests of Mrs. H. J. Warren at "Red Gables", when Dr. John Amyot, Deputy Minister of Health, emphasized the need of dealing with the immigrant to prevent the entrance of mental defectives. Sir George Burn, of Ottawa, treasurer, stated that private subscriptions for the year amounted to \$60,000, more than half of which had been given by a few Canadian ladies.

The appointment of an inspector of feeble-minded persons was suggested by Justice Hodgins.

The meeting of the executive and finance committees resulted in acceptance of the request of Alberta and New Brunswick for a mental survey of these provinces, the adoption of a budget of \$45,000, a request to Dr. C. K. Clarke to give more of his time to the work of the committee,

the spending of more time on the study of industrial psychology and the employment of a worker in Halifax, which would result in the establishment there of a mental clinic.

Arrangements were made for a course in mental hygiene for social workers at the University of Toronto this spring.

MISS E. P. CRANDALL'S ADDRESS ON NURSING.

Before one of the largest audiences that have ever assembled in the medical building to hear any prominent speakers on medical topics, Miss Ella Phillips Crandall, R. N., executive secretary of the National Organization for Public Health Nursing of New York city, gave a brilliant and interesting address on the evolution of the modern public health nurse.

Opening her address with a few remarks to the assembled nurses, both graduates and undergraduates, she appealed to them to seriously consider the two phases of nursing, both private and public health work before they ultimately decided which branch of the profession they would enter, and not to drift into any one branch by accident, but to give each an honest trial and then place herself where she could do the maximum service to the community. She then went on to show that nursing was the oldest profession known to woman and that up to the time that the Catholic Church in the personages of St. Vincent de Paul and St. Francis Assisi nothing definite had been done in the way of organizing the nurses or of placing their profession on a sound basis.

These two saints, however, had recognized the need of a real body of sisters who would devote their time and energy to this work and so with this object in view they organized the Sisters of Charity. They differed from the religious sisters in that at first there were no vows to be taken and no community life. This new endeavor was so good that it rapidly spread throughout Flanders and Germany and in both of these countries the work they did met with the hearty approval of the people.

St. Vincent de Paul seeing that there were no definite methods attached to the work, laid down five main rules, which practically form the basis of the present day municipal health work, namely, separation of the sick and the well. Home visiting, although in a very modified form. Work for the patients when they had reached the stage of convalescence. Instructions to the well as how to keep well, and finally the teaching to the patients of methods as to how they could best earn their own living. These first groups of workers that went around doing this form of work received the names of "Dames of Charity," and even to this day they are still active in Flanders.

It was to one of these schools established by the saint that Florence Nightingale, or the Mother of the Modern Nurse, as she is commonly known, went for her early instruction, and it was due to her activities after her graduation that the first real nursing institution was established in London. But this led a very mediocre life up until the time of Queen Victoria's Jubilee, in 1887, when her majesty, recognizing how badly the whole nursing profession was in need of reorganization, gave the grant that established the Queen Victoria Jubilee Nursing Institution. This new organization, having the proper financial backing and new methods in the field of medicine to assist it, rapidly went ahead, and soon branches were established all over the United Kingdom, where they proved a needed blessing. It was now that a uniform set of rules to govern all the branches of the nursing profession were laid down. A few years later the Victorian Order was established here in Canada, and now it has branches from Vancouver to Labrador, where the same set of rules that governed the Queen Victoria Institution, plus the many new features of modern medicine, such as pre-natal work, through instruction in preventive medicine, etc., combine to make the nurse of to-day, as she was five hundred years ago, a valuable asset to the health of the general public.

MR. J. H. WALKER'S BEQUESTS.

The will of the late J. Harrington Walker, senior member of the firm of Hiram Walker and Sons, Walkerville distillers, and last surviving son of Hiram Walker, founder of the business, was filed for probate in Detroit. While the total value of the estate is not given, more than a million dollars is bequeathed for various charitable purposes: Children's Free Hospital, Detroit, "on condition that the word 'free' forms part of the said hospital's name at the time of my death but not otherwise," \$25,000; Harper Hospital, Detroit, \$10,000; Holiday House Charity work, carried on by the Girls' Friendly Society of Christ Church Home, Detroit, \$10,000; Franklin Street Settlement, Detroit, \$1,000; Hotel Dieu, Windsor, \$5,000; Home for the Friendless, Windsor, \$5,000; St. Paul's School, Concord, N. H., \$5,000; Epsilon Association, New Haven, Conn., \$5,000; to the governors of the University of Toronto, \$15,000; board of governors of St. Andrew's College, Toronto, \$10,000.

All of foregoing bequests to institutions are in cash. To the Town of Walkerville, "toward the building of a general hospital," Pere Marquette bonds amounting at par to \$25,000 are given. The will here contains a clause, "provided that if the hospital has been built at the

time of my death these bonds are to go to an endowment fund for the same on such trusts and terms as the town and trustees may agree upon; in default of agreement this legacy to lapse."

CANADIAN RED CROSS TO ADAPT WORK TO PEACE CONDITIONS.

Plans for the organization of the work of the Red Cross in Canada adapted to peace conditions, which it is hoped will make it the power for national welfare that it was during the war, were outlined at the annual meeting of the Canadian Red Cross held in the King Edward Hotel recently, when a resolution was agreed to providing for the formation of a Red Cross Advisory and Consultative Committee, designed to co-ordinate and further the work of all existing organizations now interested in the health of the nation. The meeting, at which their Excellencies the Duke and Duchess of Devonshire were present, was well attended with members from all parts of the Dominion present, and the opportunity was taken by their Excellencies of expressing a tribute to the splendid work of Lieut.-Col. Noel Marshall and Mrs. H. P. Plumptre in particular, both of whom, after their five and a years years' of active work in the executive, are finding it impossible to continue in their former offices, and to whom resolutions of thanks were moved at the meeting. Lieut.-Col. Marshall, the retiring chairman of the executive, in presenting the report, recalled that it was just five and a half years since the Red Cross had come into existence in Canada, and there had since been established some 1,400 ordinary and 10,000 auxiliary branches, while every Province was organized for the work. There had been 190 meetings in Toronto of the executive since the war, and there had never been the lack of quorum, while twenty-two meetings of the council with representatives from every Province had been held.

During the past year the chief work had been that connected with demobilization and the disposal of equipment. This latter had been sold without loss. The large quantities of supplies that had been donated, and which were on hand at the time of the armistice, had been given for relief purposes to the Allies on the continent of Europe. Valuable work in the establishment of hospital visiting committees on the plan of the work done by Lady Drummond overseas, had been organized in Canada during the past year, and there had also been the work of placing nurses on the trains from the Eastern ports on which invalid soldiers and soldiers' dependents were carried.

During the five and a half years of the organization, the Canadian Red Cross has handled eleven million in cash, collected some five or six

millions for the British Red Cross, and shipped overseas goods valued at approximately thirty millions, so that over forty millions in cash and supplies have passed through the hands of the committee, an average of five dollars per head for the population. The response to appeals, Col. Marshall declared, had been wonderful, for at no time had the committee made an appeal but there were two dollars forthcoming for every one asked. The speaker also referred to the fact that the last \$400,000 collected in Canada for the British Red Cross had not been sent overseas at the cessation of hostilities, and it had therefore been retained in Canada, with the consent of the British officials, to form the nucleus of a fund for the Ontario Red Cross. The adoption of the report was seconded by Mr. C. B. Allen, of St. John, who spoke appreciatively of the work of their Excellencies, Lieut.-Col. Marshall, and other members of the executive.

Mr. F. Gordon Osler, honorary treasurer, in presenting the financial report expressed satisfaction with the year's results, and appealed to all who have so generously helped in the past to continue to aid the society in the future. He mentioned that not in any one year had administration expenses been greater than the sum received from bank interest.

The total receipts of the year were \$2,791,998, to which \$1,999,311 was from balance brought forward and customs refunds. Disbursements to Canadian hospitals, to Provincial branches for capital account, and grants to various societies, or health welfare work, amounted to \$145,800. Advances for Dominion port work in St. John's, Halifax and Quebec, and various expenses together with an investment of \$1,004,062 in Victory Loan, left the balance on hand \$232,025. The adoption of the report was seconded by Mr. H. E. Mahon, of Halifax.

In moving the adoption of the report of the committee on nominations for officers for the ensuing year, Mrs. H. P. Plumptre discussed the reasons for keeping up the organization of the Red Cross in Canada instead of "scrapping the machinery." Pointing to the manner in which the Red Cross had worked side by side with Government organizations during the war, not seeking to supersede them, but to aid them. Mrs. Plumptre felt that it had been shown there was a place for the voluntary organizations in the community, and it was the hope of the Red Cross that they could assist other organizations now working to promote public health and mitigate the sufferings of society. She pointed out that under the covenant of the League of Nations a Red Cross organization was required in a nation, so that if the present organization were to be discontinued in Canada, the Government would have to set up a substitute. Mrs. Plumptre saw a vision of a world-wide Red Cross, educating people and speaking the knowledge of how to combat diseases. The

Red Cross League would work side by side with the League of Nations as the church had worked beside the throne in times past. Mr. H. C. Pope, of Moose Jaw, Saskatchewan, seconded the resolution, which was carried.

The officers elected are as follows:—President, her Excellency the Duchess of Devonshire; Hon. Vice-President, Major-General Sir Arthur W. Currie, K.C.B., G.C.M.G.; Vice-Presidents—Alberta, Rt. Rev. T. J. McNally, R. C. Bishop of Calgary; British Columbia, Mr. F. W. Jones; Manitoba, Mr. G. F. Galt; New Brunswick, Lady Tilley; Nova Scotia, Mrs. Wm. Dennis; Ontario, Lieut.-Col. Sir John M. Hendrie, K.C.M.G., C.V.O.; Prince Edward Island, Hon. Mr. Justice Hazzard; Quebec, Mr. H. R. Drummond; Saskatchewan, Mr. H. C. Pope.

The following members of the Central Council whose term of office had expired were re-elected:—Lady Beck, Lady Borden, Lady Drummond, Hon. Featherston Osler, K.C., D.C.L.; Mrs. H. P. Plumtre, his Grace Archbishop McNeill, Sir Robert Falconer, Dr. C. J. O. Hastings, Lieut.-Col. C. S. McVicar, Hon. H. J. Cody, D.D.

Mr. Gordon Osler was re-elected honorary treasurer, and the following were elected to the executive committee:—Major-General G. S. Ryerson, Brig.-General Sir John Gibson, Lady Beck, Mr. R. B. Bennett, K.C., Mr. K. J. Dunstan, Lieut.-Col. R. W. Leonard, Lieut.-Col. Noel Marshall, Hon. Featherston Osler, Mr. W. R. Miller, Mr. F. Gordon Osler, Mrs. H. P. Plumtre, Commissioner A. B. Perry, Dr. J. W. Robertson, Mr. Norman Somerville. The Finance Committee will consist of Sir John Hendrie, Col. W. R. Leonard, Col. A. E. Gooderham, the honorary treasurer, and one representative to be appointed by each province.

At the earnest solicitation of the committee, Lieut.-Col. Marshall has consented to continue to act as chairman until the appointment of a director or commissioner. Dr. J. W. Robertson has also been asked to act as vice-chairman of the executive for the same period.

The committee recommended that the executive be authorized to appoint a director or commissioner to control the work of the organization.

His Excellency the Governor-General in commencing his address, recalled that it was three and a half years since he had become associated with the Canadian Red Cross organization. The organization had achieved success in the war through the cordial co-operation that had actuated the people of Canada. "To-day we are standing on the threshold of what will be one of the most far-reaching movements that have taken place not only in our time but in the history of the world," his Excellency declared, and proceeded to speak of the obligation that Can-

ada has entered into in subscribing to the League of Nations' covenant, obligations that must be carried out. He felt that Canada would willingly undertake these fresh responsibilities, and pointed out that the pledge had two aspects, namely, its relation to the other countries of their world, and its domestic relation.

With reference to the international obligation, his Excellency declared that the Council would keep steadily in view what was the best line to pursue to meet the obligations to the rest of the world required, and would meet these obligations in a broad and liberal spirit.

On the domestic side, His Excellency recalled Lloyd George's declaration that "you cannot make an A1 nation out of a C3 population," and declared that, while he did not believe Canada had a C3 population, but, on the contrary, was a great nation, both in character and health, it was necessary to see that she became still greater. There were great institutions in the country, doing enormous and valuable work, but it was necessary to have public opinion behind all these institutions in order that they might do still more important work. His Excellency felt that instead of persons in his position going around the country opening up sanitarium for the cure of tuberculosis, it would be better to be going about closing them, for by the application of the knowledge men now have they could wipe out the horror of consumption that civilization is responsible for. Predicting the rapid growth of population in Canada, His Excellency considered it was the duty of the present generation to see that the foundations for that greater nation were truly laid.

As a policy for the future His Excellency commanded that outlined in one of Macaulay's essays, written in 1829, from which he read the following:

"Our rulers will best promote the improvement of the nation by strictly confining themselves to their own legitimate duties; by leaving capital to find its most lucrative course, commodities their fair price, industry and intelligence their natural reward, idleness and folly their natural punishment; by maintaining peace, by defending property, by lowering the price of law, and by observing strict economy in every department of the State. Let the Government do this; the People will do the rest."

The quotation was met with applause from those present.

The resolution, read by Dr. J. W. Robertson, after pointing out that under the Peace Treaty a League of Red Cross Societies was called into existence, provides for the formation of a Red Cross Advisory and Consultative Committee to advise the organizations of means to bring about the greatest measure of co-operation. Provision is made for the ap-

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is being used in many families because the disagreement of coffee is so apparent that a more agreeable table beverage is indicated.

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pointment of representatives from each provincial branch, while such organizations as the St. John Ambulance, the Society for the Prevention of Tuberculosis, the Committee to Combat Venereal Diseases, the Committee for Mental Hygiene, and the various departments of public health, medical associations and similar organizations are all invited to appoint representatives. The intention of the resolution, which was seconded by Mrs. Wm. Denniis, of Halifax, and which was adopted, it was emphasized, was to co-operate with, not to supersede, the organizations now in the field.

Following the report of Mrs. C. B. Wagner, of Calgary, on the junior work which it is proposed to carry out, with the object of enlisting the interest of children in the ideals of the Red Cross. His Excellency moved a resolution of appreciation from the society for the excellent work of Lieut.-Col. Noel Marshall, and its regret that owing to ill-health he is unable to carry on in his former post. His Excellency paid a high tribute to the work of Col. Marshall, and Lady Drummond seconded the resolution, which she was sure would be unanimously adopted by the people of Canada. She declared that Col. Marshall made a suitable reply.

Her Excellency then moved the vote of thanks to Mrs. Plumptre and expressed regret at her retirement from the position of honorary superintendent of supplies and honorary corresponding secretary. Her Excellency spoke of the tireless energy shown by Mrs. Plumptre in her work, and felt that that work would be appreciated by the whole of Canada. The resolution was seconded by Mr. K. J. Dunstan, and Mrs. Plumptre was then heard in reply.

MEDICAL PREPARATIONS

AN ADVANCE IN THE TREATMENT OF CARBUNCLES, BOILS, ANTHRAX, ACNE, STYES AND DISEASES ARISING FROM STAPHYLOCOCCUS.

The Practitioner, August, 1917.—“In May at the Academie des Science, Gregorie and Froin drew attention to the fact that tin-workers never suffer from boils, and that powdered tin is a popular remedy for this complaint. They tried the effect on 50 cases of furunculosis, giving powdered tin or the oxide of tin in doses of from 50 eg. to 1 eg. In every case a cure was obtained in from 5 to 14 days. These who were treated over six months ago have not had any relapse. Hudelo reported the effects of the same powder in a further series of cases, in each of

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which a successful result was obtained. He gives a mixture of powdered pure tin and oxide of tin, 25 eg. of each, in a cachet."—*Journal des Practiciens*, June, 1917.

Stannoxyll is a truly scientific production, the value of which has been studied very closely at the Academy of Medicine, the Medical Society, and at the Hospitals, etc. The results have been explained at some length in the communications of the Academy of Science, 15th May, 1917. The effect is wonderful; from the second day of treatment the pain is relieved, the carbuncles begin to dry up, those which are just opening are stopped in their course, the core is not expelled but re-absorbed. It is advisable to put a dry protective covering on the remaining carbuncles.

Stannoxyll is supplied in grayish tablets having a slightly metallic taste, not at all disagreeable.

The daily dose for adults is 4 to 8 tablets; children 3 to 4 tablets. They may be taken at any hour of the day in water, or preferably eaten dry.

In the majority of cases a complete cure is effected by the fifth or sixth day. It is seldom necessary to take the full ten days' treatment, although in some exceptionally obstinate cases the treatment has been prolonged to 15 or 16 days.

Stannoxyll is perfectly harmless, and in the opinion of authorities most competent to judge is extraordinarily efficacious, relapses are unknown, indeed, it is a specific for diseases arising from *Staphylococcus*.—Vide page XII. The Anglo-French Drug Co., Ltd., Dandurand Building, Montreal.

AFTER THE LONG SCHOOL YEAR

the tired school child, whether girl or boy, is extremely liable to become vitally depressed, worn out both physically and mentally, and more or less anæmic. With the coming of warmer weather, this depreciated condition becomes accentuated and it is the part of wisdom to take steps to build up the tone of the organism, enrich the vital fluid by creating new red cells, and hemoglobin, and employ every available means adapted to reconstruct the cells and tissues and restore the depleted vitality. Pepto-Mangan (Gude) does yeoman's service in such condition, by furnishing an agreeable, absorbable, and assimilable organic combination of iron and manganese, the agents most needed for blood repair, and general reconstruction. It is pleasant to take, and does not irritate the digestive organs nor cause constipation.