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## SLEEPING SICKNESS.\*

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At present in England, the subject of tropical medicine is attracting widespread attention and, undoubtedly, experimental medicine is responsible for the greatest advances, which have come to light within the past few years. The discoveries of Novy and McNeal are of much importance, the first in fact to obtain pure cultures of protozoa, maintaining trypanosomes of different species alive. The recent discovery during the past year, of protozoal parasites in the blood of different animals, in addition to many new species of trypanosome, is of much interest, and more particularly owing to the close affinity of these discoveries, with sleeping sickness. So far as known, the first to observe sleeping sickness was Winterbottom, who wrote a brief paper in 1803, giving an account of the native Africans in the neighborhood of Sierra Leone. The next reports of importance were those of Dumontier and Santelli in 1868, but by far the most important and accurate account is by Corre, who studied the disease in the natives of Senegambia. In 1891, Mackenzie recorded a case of sleeping sickness in the London Hospital, and, in 1900, Manson made a special record of two cases. Charing Cross Hospital, sent from the Congo by Dr. Grattan Guinness. Dr. Mott, the able neurologist of Charing Cross, worked out carefully the pathological histology, and defined the lesion as one of the nature of meningo-encephalitis. Until within a limited period the geographical distribution of sleeping sickness was limited to West Africa. For some years it has also been known in the Congo, as well as in several of the West Coast areas. In 1900, Cook discovered sleeping sickness in Uganda, since which date the disease has spread widely towards the north shore of Victoria Nyanza lake.

From the various reports of local observers, the epidemic area of sleeping sickness is confined to parts of equatorial Africa. On the upper and lower Congo, the disease has been noted in epidemic form, large numbers of the population falling victims to its influence.

As to the cause of this disease many hypotheses have been propounded in explanation, such as an intoxication of food, animal parasites, and bacteria. Since November, 1902, Castellani frequently ob-

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served the trypanosome in sleeping sickness, in fact he discovered the trypanosome in the cerebro spinal fluid of 20 out of 34 patients. According to Dr. Mott, the cerebro spinal fluid in sleeping sickness always contains trypanosomes, and likewise the juice of the lymphatic glands by puncture, during life. He also states (proceedings Royal Society, 1905), "the evidence of the existence of trypanosome in the blood of animals dying of trypanosome disease may vary considerably."

Thus far there is a degree of doubt as to the exact pathological condition in sleeping sickness, which only time and further researches can decide.

The disease first broke out in the Province of Basoga, where it is supposed to have been introduced by Emin Pasha's Soudanese, their wives and followers, who settled in Basoga. This disease had been epidemic in the Congo country since the supposition that a certain number were suffering from sleeping sickness in its incipient condition. In this section of country the disease assumed such a severe form that in a short time it reduced the population of Uganda to a minimum. The chief part of the nervous system influenced by it is the brain, the functions of which become gradually disturbed, so much so that the mental attitude of the patient is soon noticed by the relatives. No desire to work, but rather to rest, owing to headache and pains, more or less in the chest. This disease is quite frequent in the Foola country, and more so in the interior, than on the sea coast and, strange to say, children are seldom affected by it. Those giving evidence of the disease exhibit a somewhat ravenous appetite, eating much more than when in usual health, and gradually growing fat; this, however, lasts but a short time, as the appetite soon declines and the loss of flesh becomes quite evident. Squinting and convulsions frequently occur before death. The presence of glandular tumors in the neck are not uncommon in the incipient stage of development, and slave dealers avoid the purchase of such on that account, fearing the development of sleeping sickness. The disposition to sleep is so strong that the desire for food is not marked. The whip, searings, or even blisters fail frequently to arouse the patient from the lethargic condition, which is generally fatal in a few months.

There is usually a dull, heavy, stupid look, and a characteristic slowness in answering questions, and a well defined shuffling gait. The temperature is remarkable, rising in the evening to 101° F. and becoming subnormal in the morning. During the intervals of examination the drowsy lethargic condition steals on, and when he sits down the head nods, the eyes close, and thus he continues, until again aroused and questioned. As to the final issue, much depends on whether the disease will develop an acute or chronic form. Tremors of the tongue and arms are not uncommon, the general reflexes become lessened in intensity,

and drowsiness gradually lapses into coma, the patient passing away in a state of complete insensibility. In chronic cases the symptoms are slower in development, but usually eventuate in a like fatal issue.

Sometimes preliminary symptoms of an exceedingly slight character might be in progress for years, and in fact so feebly defined as to be almost sublatent, until very gradually the symptoms deepened in intensity, when the gait, speech, and food supply, entirely changed from the normal condition, are gradually followed by profound coma and death. It is now generally accepted that this disease is caused by the entrance into the blood of a minute protozoal parasite—the trypanosoma Gambiense, first described by Dr. Dutton, who, while searching out this disease, lost his life on the West Coast of Africa. In South Africa there is a disease known among cattle and other domestic animals, caused by the trypanosoma Brucei, and conveyed by and communicated from sick to healthy animals, by a biting fly, the *Glossina morsitans*. The idea followed that sleeping sickness might be produced in a like manner from a biting fly. "Large collections of these biting flies were made with the remarkable result that the distribution of sleeping sickness and of a biting fly, the *Glossina palpalis*, corresponded exactly with each other." Col. David Bruce, R.A.M.C., F.R.S., addressed the meeting of the British Association on this subject during the recent meeting in South Africa, and brought to light many interesting facts, in this line of research which cannot fail to be of great service.

Sleeping sickness is not contagious, and, in fact, is only considered infectious in a limited sense. The disease is generally believed to be fatal, but in a few cases recoveries are vouched for.

Dr. Todd, of McGill University, recently returned from West Africa, having extended his observations over 2,000 miles of the Free State, from the mouth of the Congo. He favors the idea that nearly all general glandular enlargements, without evident cause, such as syphilis or tuberculosis, are cases of trypanosomiasis. The palpation of these enlarged glands in the posterior triangle of the neck is considered sufficient evidence of the disease. The juice of enlarged glands removed by the hypodermic needle is unailing, as to the production of trypanosomes, even when not found in the blood. Dr. Todd considers the sleepiness rather as a terminal sign and not necessarily an unailing symptom of the disease.

Information has just been received (*British Medical Journal*, May 5th, 1906) that one of the commissioners sent out to Uganda, in 1904, by the Royal Society of England, to investigate the sleeping sickness, has been infected with the parasites believed to produce the disease. Two officers of the Royal Army Medical Corps, Lieut. Gray and Lieut. Forbes Tulloch, were the commission. Last year an official telegram

was received in London that trypanosomes had been found in the blood of Lieut. Forbes Tulloch, and there is widespread sympathy expressed for this young and zealous officer suffering in the cause of Science, and the members of the Royal Society of Canada join heartily in the hope that he may make a safe recovery. Since the discovery of trypanosomes, the parasite has been recognized in seven persons of English birth. Of these, three have died, and four are still living. From most recent data a proportion of recoveries is to be looked for in the trypanosome diseases of man, and that the terminal and fatal condition of sleeping sickness is not inevitable, and although a necessary factor in the production of the disease, not always followed by its development, and much work has still to be done, before a positive opinion is arrived at as to either the prognosis or treatment of this disease.

Sleeping sickness has been considered by some experts as a form of beri-beri. Such, however, is not generally accepted. Beri-beri is, in fact, a peripheral neuritis, and developed rapidly. The knee reflex is absent and hyperaesthesia of the muscular system is a striking characteristic. In sleeping sickness those symptoms are wanting; the tremor, pyrexia and lethargy are marked features.

Professor Robert Koch recently investigated sleeping sickness for some months in South Africa, and favors the opinion that this disease has been known on the West Coast of Africa since the beginning of the last century. Sir Claude de Crespigny visited the Hospital at Entebbe, German East Africa, and considered that the disease is conveyed by the tse-tse fly, only about two per cent. disseminating the fatal germ. It is doubtful whether the disease emanates directly from the fly, or the latter conveys it from dead fish, and is spread like yellow fever by mosquitoes. In large sections of Africa the horse is not seen, and cannot survive owing to insects, and the donkey, at one time supposed to be immune, frequently succumbs a victim to a like influence. Dr. Koch inclines to the opinion that sleeping sickness is a form of cerebro-spinal meningitis.

The present interchange of commerce with the numerous tribes in South Africa from Britain, and nearly all Europe, makes this disease an important problem, not alone as to the economic future of South Africa, but also as to the outlook in the direction of Public Health.

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### PERNICIOUS VOMITING OF PREGNANCY.\*

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**S**LIGHT degrees of nausea and vomiting in the early months of pregnancy have probably occurred from time immemorial, but according to Guéniot and Anquetin, the more severe forms of the affection were first described by Oribasius and Paul of Aegina, who, however, appeared to have no idea that it might end fatally. Similar views were held by Guillemeau, Mauriceau, and the obstetricians of the seventeenth and the greater part of the eighteenth centuries. Indeed, Dionis and many others considered vomiting a favorable sign, and thought that women subject to it were usually exempt from serious complications at the time of labor; or, as Rigby expressed it, nearly 150 years later, "a sick pregnancy is a safe one."

In 1789, Vaughan reported a case which he considered was saved from a fatal termination only by the employment of rectal feeding, so that it would seem that it was not until the latter part of the eighteenth century that it began to be recognized that vomiting of pregnancy might occasionally be so persistent as to lead to death from inanition.

As far as I can learn, Simmons, in 1813, was the first to induce abortion for its relief, an example which was soon followed by Davis, Chailly-Honoré, Churchill, and others. The justifiability of the procedure, however, was first brought prominently to the attention of the profession by a discussion before the Academy of Medicine of Paris in March, 1852, when Dubois and Danyau contended that the induction of abortion was not only justifiable, but urgently demanded in severe cases, while Cazeaux held that interference was unnecessary and even hastened death in some instances.

Dubois supported his contention by his own experience in fourteen severe cases, ten of which died without operation, while abortion was induced in the other four. Only one of the latter recovered; in two others the vomiting persisted until death; while the third died from

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infection. Notwithstanding these apparently poor results, which he held were due to the fact that interference had been delayed so long that death was practically inevitable no matter what line of treatment was adopted, Dubois contended that abortion was the rational treatment and should be induced before the patient's condition becomes absolutely hopeless, and was urgently indicated under the following conditions:—

1. When the vomiting is incessant.
2. When emaciation is rapid and the patient so weak as to be obliged to keep her bed.
3. When she faints upon the slightest exertion.
4. When pronounced alterations occur in her features.
5. When there is marked and continuous fever and an excessive acidity of the breath, which cannot be relieved by treatment.

The next important contribution to the subject was the monograph of Guéniot in 1863, in which the author collected from the literature 118 cases of pernicious vomiting with 46 deaths, and carefully analyzed them from the point of view of etiology and treatment. Concerning the former, his conclusions were not very satisfactory, but on the other hand he taught that the induction of abortion was urgently indicated in severe cases, and should be resorted to as soon as medicinal treatment proved unavailing and the patient was perceptibly losing ground.

The work of Dubois and Guéniot greatly stimulated the interest in the subject, concerning which an immense literature gradually developed. Unfortunately the contradictory statements of the various writers have simply served to accentuate the fact that their knowledge concerning the etiology of the condition was very fragmentary and imperfect; while the manifold recommendations as to treatment indicate that they either were practically worthless, or that several types of vomiting with varying clinical histories had been grouped together in a single category.

Leaving out of consideration all cases in which the vomiting is dependent upon conditions which have nothing to do with pregnancy, and limiting our attention only to those cases in which it is apparently due solely to the pregnancy itself or to some lesion of the generative tract—in other words adopting the distinction of Matthews Duncan between vomiting in and vomiting of pregnancy—I hope to be able to show that the evidence at present available seems to justify the differentiation of three distinct types of vomiting or pregnancy, namely: reflex, neurotic, and toxæmic, each of which is dependent upon different etiological factors and demands especial methods of treatment.

It is difficult to give definite figures as to the frequency of serious vomiting of pregnancy, since even the statements concerning the incidence of the ordinary morning sickness vary greatly. Thus Gardner states that the latter occurs in only 15 per cent. of pregnant women, while Giles, Gerst, and Horwitz noted it in 47 4/5, 66 2/3, and 84 per cent. of their cases respectively. My own experience leads me to believe that it is present in slightly more than one-half of all private patients. According to Pick and Lwow the pernicious type occurs about once in one thousand cases; but as their conclusions were drawn entirely from hospital experience, they do not necessarily give a correct idea as to its incidence in private practice, in which it would seem to be much more frequent. This is clearly shown by my own experience at the Johns Hopkins Hospital, where only two out of 4,500 clinical cases suffered from serious vomiting of pregnancy, while I have seen ten cases during the past two years in my private and consultation practice.

It would also seem, as Horwitz first pointed out, that there is a marked variation in its incidence in different countries, as it occurs much more frequently in France, England, and America, than in Germany or Russia; a fact which may possibly be explained by the greater frequency of neurotic conditions among the inhabitants of the former countries. Indeed many competent German authorities, such as Hohl, Lomer, Frank, and Strassmann, have stated that they have never seen a case of vomiting of pregnancy end fatally; while in this country there is hardly a general practitioner of extensive experience, who has not had one or more cases in his own practice. It is likewise interesting to recall the fact that Anquetin stated that the condition had apparently become more frequent in France after the abandonment of universal venesection.

1. *Reflex Vomiting*.—This variety of vomiting may be due to the presence of abnormalities of the generative tract or ovum, which existed prior to the onset of pregnancy, or are coincident with it. Among such conditions may be mentioned:—

- (a) Abnormalities of the uterus, particularly displacements.
- (b) Certain cases of endometritis.
- (c) Ovarian tumors.
- (d) Abnormalities of the ovum, such as hydramnios, hydatidiform mole and certain cases of twin pregnancy.

The reflex character of the vomiting of pregnancy was recognized at an early period. Mauriceau attributed it to a sympathy between the uterus and stomach, as he believed that distinct nervous connections existed between the two organs.

That uterine displacements may occasionally be the cause of the conditions is apparently demonstrated by the fact that the vomiting sometimes ceases immediately upon the replacement of a retroflexed uterus. This conception was particularly elaborated by Graily Hewitt, who published extensive monographs upon the subject in 1871, 1885, and 1888, in which he clearly demonstrated that certain cases, at least, were due to displacements of the uterus and could be cured by restoring the organ to its normal position. Following the publication of Hewitt's last monograph, his view has never lacked supporters, as is evidenced by the teachings of Guéniot in 1889 and Lwow in 1900.

From my own experience, I can state without hesitation that in exceptional cases, a retroflexed uterus may be the exciting cause of the conditions, and in such cases vomiting ceases immediately after its replacement. At the same time it must be admitted that this is not a common etiological factor, since in the vast majority of patients with retroflexion of the pregnant uterus, even when symptoms of incarceration are present, vomiting is lacking or at least no more severe than in women with perfectly normal genitalia.

Dance, in 1827, in one of the earliest autopsies performed upon a woman dying from hyperemesis, noted an abnormal thinness of the uterine wall; and since then occasional advocates have been found for the belief that the vomiting is due to undue distension of the uterus, a view which was held in part by Schroeder. While it cannot be denied that such an explanation may occasionally hold good, as is apparently demonstrated in some cases of hydramnios and twin pregnancy, it must nevertheless be admitted that it is not of universal application, and even in those cases in which it appears most probable, conclusive evidence cannot be adduced in its favor.

Horwitz, in 1883, pointed out that in certain cases the vomiting appeared to be due to inflammatory conditions of the muscular wall of the uterus, which in several of his cases was associated with peritoneal involvement. Whether these lesions were really the cause of the condition, or should be regarded merely as accidental complications, cannot be decided, though the evidence at present available makes the latter probable. Tuszkaï in 1895, rehabilitated the theory of peritoneal irritation with only partial success. At the same time there can be no doubt that abnormal conditions of the uterus certainly favor the occurrence of vomiting.

The uterine origin of vomiting was likewise advocated by Martin in 1904, who stated that the majority of cases should be attributed to hyperæmia of the uterus and its impaction in the pelvic cavity; while Evans, of Montreal, taught that the ordinary morning sickness was probably connected with the rhythmical contractions of the organ.

In 1849, J. H. Bennett in his work on inflammation of the uterus directed attention to the part which he believed was played by inflammatory conditions of the cervix in the production of the vomiting of pregnancy, and ever since then this view has had numerous adherents; and he himself, in 1875, stated that more extended experience had only served to confirm his original views.

A little later Copeman invoked the influence of the cervix in another manner and assumed that the vomiting was due to an irritation resulting from its abnormal rigidity, particularly in the region of the internal os, and held that the vomiting could be cured by dilating the cervix. This view and the procedure dependent upon it was accepted by Rosenthal and many others and enjoyed considerable vogue for some years, but has gradually fallen into disrepute; although even as late as 1896, Kehrer reported a case which he considered demonstrated the correctness of such teachings. Cervical catarrh has likewise been considered to play an important etiological part, and Lwow stated that 75 per cent. of the women suffering from vomiting of pregnancy presented this abnormality.

As far as I am able to ascertain, the casual relation between abnormalities of the cervix and the more severe forms of vomiting has not been conclusively demonstrated, nor do I think that it will be in the future; as it seems to me that a palpably accidental condition has been erroneously considered as casual. This contention is well exemplified by a case of Davis, in which several small cysts in the cervix were considered as the etiological factor; while autopsy showed marked lesions in the liver and kidneys; and still more forcibly by a case of Lang in which inflammation of the cervix was considered the essential factor, while autopsy demonstrated the presence of acute yellow atrophy of the liver.

Ever since 1827, when Dance at autopsy upon a patient dying from vomiting of pregnancy, found suppurative changes in the decidua, it has been considered that endometritis may play an important part in the production of the condition, a view which in modern times has been particularly insisted upon by Veit, Jaffé, Jaggard, Flaischlen, Goldspohn, and many others. Nevertheless it does not appear that its advocates have adduced conclusive evidence in its support, and it seems probable that endometritis when it occurs, should generally be regarded as an accidental complication rather than an important etiological factor. At the same time it must be admitted that it may tend to exaggerate what might otherwise be only a minor complaint.

There can be no doubt that in exceptional instances the presence of tumors of the ovaries may accentuate or even cause serious vomiting.

Clinical observation apparently shows that both hydramnios and twin pregnancies predispose to excessive vomiting, though whether this is the result of the mere overdilatation of the uterus, or whether it is associated with some toxæmic condition has not yet been demonstrated.

Hydatidiform mole has a similar effect, and Bué has reported three cases in which the vomiting ceased immediately after the evacuation of the mole, and has collected a large number of similar cases from the literature. Likewise, in one of my cases the spontaneous expulsion of the mole prevented the induction of abortion for the relief of vomiting. But in this condition, as well as in twin pregnancy and hydramnios, the exact interpretation of the effect of the abnormality is not easy; as it is possible, on the one hand, that the vomiting may be merely the result of over-distension of the uterus, while on the other, it may quite as readily be attributed to a toxæmic condition, which may be due to abnormal metabolism on the part of the mother fœtus, or to the formation of syncytiotoxins resulting from the presence of unusually large amounts of fœtal elements in the maternal blood.

Chorio-epithelioma has likewise been invoked as a cause of the condition by Davis and Harris, although in their case it is questionable whether the vomiting was due to the presence of fœtal tissues in the growth itself, or merely to the mechanical action of the metastases which were found in the brain at autopsy.

2. *Neurotic Vomiting*.—Although the effect of pregnancy upon the mental, moral, and nervous equilibrium had long been recognized, and Anquetin, Tisserand, Duncan, Rosenthal, Ahlfeld, and others had pointed out that many cases of severe vomiting were neurotic or hysterical in origin, it was nevertheless not until Kaltenbach read his paper before the Berlin Obstetrical Society in 1890, that general attention was directed to this phase of the subject.

On that occasion he pointed out the necessity for narrowing the conception of the pernicious vomiting of pregnancy and confining it strictly to those cases in which there was no disease of other organs or of the generative tract to which it might be attributed.

In this restricted sense, he held that the severe cases of hyperemesis were the result of an abnormal condition of the nervous system by which the reflex irritability was heightened and the reflex control lessened. This being the case, it could readily be understood how the irritation might be increased by diseased conditions on the part of the generative tract on the one hand or of the stomach on the other. Accordingly, he concluded that the vast majority of cases of vomiting of pregnancy were due to a neurosis, more or less allied to hysteria; although he was compelled to admit that many of the patients presented no evident manifestations of the latter condition.

This paper immediately gave rise to considerable discussion, and a number of authors, among whom may be mentioned Ahlfeld, Chazan, Rosenfeld, and others, claimed that they had antedated Kaltenbach's views by a number of years. As has already been indicated, this was undoubtedly true; but, nevertheless, it would seem that the credit rightly belongs to Kaltenbach, as he was the first to insist upon the importance of neurotic influences in their entirety.

The neurotic origin of the condition was enthusiastically accepted by a number of writers, among whom may be mentioned Luez, Klein, and Graefe. Klein published histories of a number of cases and insisted upon the curative value of an absolute rest cure and attached less importance to the action of suggestion. He stated that the vast majority of cases could be promptly cured by putting the patient to bed, keeping her absolutely quiet, prohibiting all intercourse with her family and friends, and at the same time administering small quantities of iced milk at frequent intervals, and if this was not well borne to resort entirely to rectal feeding. If, however, such a course did not lead to the desired result within three or four days, he advocated the removal of the patient to a well regulated hospital, where she could be placed under ideal conditions for a very strictly conducted rest cure. Graefe expressed similar views in his original article in 1900 and reiterated them more strongly in 1904.

To anyone who has had considerable experience with this class of cases there can be no doubt that in many the vomiting must be attributed to some neurotic condition, as is manifested by the remarkable cures which sometimes follow all sorts of unphysiological procedures, as well as the mere threat to induce abortion, or a feigned attempt to bring it about. Only upon such a hypothesis can one explain the results obtained by Muret, Damany, and others.

At the same time it should be borne in mind that it is possible that the underlying cause of the neurosis may be a mild toxæmia, but at present satisfactory evidence cannot be adduced in support of such a view.

When Graefe's first paper was read before the Leipzig Obstetrical Society, in 1900, Winscheid stated in the discussion that the tendency to attribute all cases to neurasthenia or hysteria was too extreme, as he did not believe that such conditions could give rise to the extreme emaciation and cachexia which characterized the severe cases. To my mind, however, this objection does not necessarily hold good, as I have in several instances seen women, who had become markedly emaciated and were apparently dying from starvation, immediately cease vomiting after a vigorous lecture or upon the threat of inducing abortion, after I had unduly magnified its dangers.

3. *Toxæmic Vomiting*.—According to Mauriceau, one of the earliest theories concerning the production of the vomiting of pregnancy was that it was due to the excretion by the stomach of humours resulting from the suppression of the menstrual function. As far as I have been able to ascertain, Fischl, in 1884, was the first modern writer to suggest the toxæmic nature of the condition, being led to this conclusion after observing a woman, admitted to the hospital in a torpid condition with slight fever with a history of severe continuous vomiting, who was immediately cured by the evacuation of a densely impacted colon. As the result of his experience, he stated that the vomiting of pregnancy might be either essential or symptomatic, and held that the former would become more and more rare as the cases were more carefully investigated.

The following year (1885), Jolly reported two cases of paralysis which occurred in pregnant women suffering from the vomiting of pregnancy, and attributed the former condition to a neuritis which was probably caused by some toxic substance peculiar to pregnancy. Similar cases were soon described by Moebius, Whitfield, Desnos, Joffroy, and Pinard, and others.

In 1892, Lindemann reported the autopsy findings upon a patient of Solowieff's, who died from multiple neuritis complicating hyperemesis, and stated that there were histological signs of parenchymatous neuritis as well as fatty degeneration and cloudy swelling of the liver and kidneys. As he found similar lesions in the organs of the foetus, he was inclined to believe that he had adduced direct proof of the toxæmic nature of the condition.

Following Lindemann, a considerable number of cases of neuritis associated with vomiting were reported by Eulenberg, Stembo, Mader, Kühne, Kreutzmann, Bar, and others. Thus far no one has advanced irrefutable proof in favor of the toxic nature of the two conditions, although each succeeding observation has rendered it more probable.

Additional support in favor of the toxæmic nature of the vomiting of pregnancy is afforded by its occasional association with jaundice. As early as 1879, Matthews Duncan suggested that the underlying factor in certain of the fatal cases, at least, was acute yellow atrophy of the liver, and supported his contention by autopsy in one case. This view was likewise advocated by Roughton in 1885. Lomer in his article upon icterus in pregnancy likewise suggested that possibly some connection existed between hepatic disturbance and the production of vomiting.

The toxæmic theory was likewise advocated in a modified form by Holladay, who, in 1886, suggested that when the vomiting persisted

after the fourth month of pregnancy it was probably due to the action of the secretion of an abnormally persistent corpus luteum.

Allbutt and Bacon, in 1896 and 1897 respectively, expressed themselves in its favor upon purely theoretical considerations.

With the exception of the positive autopsy findings of Lindemann, and several isolated cases of acute yellow atrophy of the liver, it was not until 1901 that Champetier de Ribes and Bouffe de Saint-Blaise reported definite hepatic lesions in vomiting of pregnancy. In a communication to the Society of Gynecology, Obstetrics and Pædiatrics of Paris, they briefly described the autopsy findings in a woman dying in convulsions at the end of pregnancy, who had suffered from vomiting throughout its entire course, and reported the presence of lesions in the liver which they considered identical with those observed in eclampsia, and therefore concluded that the anatomical substratum was the same in both conditions.

Since then an abundant literature has developed concerning the toxæmic nature of the condition, and four main theories have been advanced as to the source of the toxic materials giving rise to it: (a) gastro-intestinal tract; (b) the ovum and its appendages; (c) ovarian secretion, and (d) hepatic lesions.

(a) *Intestinal Origin*.—The most consistent advocate of the intestinal origin of the condition is Dirmoser, who in 1901 summed up his observations in a monograph, and two years later reiterated his experience in another article. He pointed out that in women suffering from the vomiting of pregnancy examination of the urine showed an increased amount of uric acid, indoxyl, skatoxyl, aromatic sulphates, phenols, and nucleo-albumins; while the following abnormal substances were frequently noted—acetone, diacetic acid, peptone, urobilin, etc. From these observations he concluded that one had to deal with the absorption of toxic materials derived from the decomposition of carbohydrates in the stomach and proteids in the intestinal tract, which circulating in the blood brought about the neurosis, which, in turn, caused the vomiting. Moreover, he believed that the results of treatment still further substantiated this view, in that the administration of intestinal antiseptics and the copious employment of rectal irrigation frequently led to cure, or at least to a marked improvement in the condition of the patient.

(b) *Fœtal Origin*.—In 1902 and 1903 Veit enunciated an hypothesis along the line of Ehrlich's side chain theory. He held that under normal conditions, the fœtal products gaining access to the maternal blood were readily rendered innocuous, but that when excessive amounts were introduced Nature was no longer able to fulfill her task

and consequently cytotoxins were developed, which brought about lesions in the maternal organs and likewise led to hæmolytic changes in the blood.

Veit attempted to demonstrate the correctness of his theory by injecting into rabbits varying quantities of an emulsion of human placenta; and, upon finding degenerative changes in the kidneys and the presence of albumin in the urine, contended that his point was proven. His conclusions naturally evoked the greatest interest, and similar experiments were promptly undertaken by Weichardt, Leipmann, Wormser, and others, with the result that considerable discredit was cast upon the syncytio-toxin theory. At present the general consensus of opinion seems to be that Veit's conclusions were based upon imperfect methods of experimentation, and that equally positive results would have followed the introduction of beefsteak or any other heterogeneous animal material.

Veit's theory has received a certain amount of support from the observation of hæmoglobinæmia and hæmoglobinuria associated with the jaundice and vomiting of pregnancy by Hirschberg, Schaeffer, Fellner, Brauer, von der Velden, and others. And it must be admitted in all such cases that the abnormal condition of the blood must be due to the action of some hæmolytic agent; but whether this is derived from foetal cells or from other sources has not as yet been determined.

Shortly afterwards Behm reported to the Berlin Obstetrical Society that he had obtained excellent results in several cases of hyperemesis by the employment of abundant rectal injections of salt solution, and held that his results clearly indicated the toxic origin of the vomiting. He accepted Veit's syncytio-toxic theory in its entirety, and stated that the beneficial results following the use of saline solutions could be readily explained by supposing that it served to wash out of the system the toxic agents which were produced after the entrance of abnormal amounts of foetal tissue into the maternal blood.

While there can be no doubt as to the correctness of Behm's actual observations, the objections which have already been made to the acceptance of Veit's theory can be urged still more strongly against the theoretical deductions of the former.

(c) *Ovarian Origin*.—Reference has already been made to the views of Holladay concerning the part played by the secretion of abnormal corpora lutea in the production of vomiting in the latter months of pregnancy. Pierrehughes in 1902, after carefully studying six cases, concluded that it was more than probable that in many cases, at least, the vomiting of pregnancy was due to some abnormality in the ovarian secretion. His argumentation was not at all conclusive and would apply equally well to abnormal products from the thyroid, liver, or other organs.

At the same time, Pierrehughes and Meillère made the interesting observation that while the amount of urea was found to be diminished when determined by accurate chemical methods, the urine nevertheless decomposed an amount of sodium hypobromite sufficiently large to indicate the presence of a normal urea content. The practical bearing of this observation will be dwelt upon when we consider the differential diagnosis of the several varieties of vomiting.

Somewhat similar views were advanced by Turenne in 1905, who held that the less severe types of vomiting were due to the suppression of the ovarian secretion during pregnancy, and that the condition might be alleviated or cured by supplying the deficiency by the administration of ovarian extract or tablets. He reported 24 cases in which excellent results were obtained by this means.

(d) *Hepatic Origin.*—Reference has already been made to the views expressed by Matthews Duncan, Roughton, and Lomer concerning the possible part played by the liver in the production of vomiting, as well as to the autopsy findings of Lindemann, Champetier de Ribes and Bouffe de Saint-Blaise. The hepatic origin of the condition, however, was first brought prominently forward by Stone in 1903, who reported the autopsy findings in a fatal case of vomiting, in which the liver presented the lesions of acute yellow atrophy, in that the entire central portion of each lobule had undergone complete necrosis, while the peripheral portion showed signs of fatty degeneration, and only a few cells remained perfectly normal.

Stone's observations were confirmed by Ewing, who within the past few months reported finding similar changes in the livers of four women dying from the vomiting of pregnancy, one of whom had a convulsion immediately before death. As the result of his experience, Ewing concludes that both vomiting of pregnancy and eclampsia are closely allied conditions and are associated with similar hepatic lesions, and therefore should be grouped together under a common heading—toxæmia of pregnancy.

Edgar has advanced similar views, which are based upon Ewing's findings and not upon personal observation.

While there can be no doubt as to the correctness of the observations of Stone and Ewing concerning the association of lesions characteristic of acute yellow atrophy of the liver with certain cases of vomiting of pregnancy, I cannot accept their conclusions as to the identity of eclampsia and vomiting, as will be brought out more fully further on.

My own experience with the toxic type of vomiting of pregnancy dates from May, 1903, when I lost a patient after the induction of

abortion at the third month. She gradually passed into a torpid condition and later became comatose and died fifty-four hours after the abortion.

At the autopsy, which I was fortunate enough to obtain, we found changes in the liver, identical with those observed by Stone and Ewing, associated with intense degeneration of the secretory portion of the kidneys.

This case made a deep impression upon me, as the patient clearly seemed to succumb to an intoxication rather than to starvation as is usually stated. But at that time I did not fully appreciate the significance of the hepatic lesions.

Further experience, however, soon led me to change my opinion, for within the next year, I saw five other cases of severe vomiting of pregnancy, in all of which I felt compelled to resort to the induction of abortion. Two patients died, one just as the case mentioned above, and the other at the seventh month with the clinical symptoms characteristic of acute yellow atrophy. The remaining three patients were seriously ill, but recovered. Unfortunately, I was unable to obtain an autopsy in the fatal cases, but in two of the cases which recovered I was able to make accurate metabolic observations, both before and after the induction of abortion. The results obtained were so surprising as to place the matter in an entirely new light and to force me to conclude that the hepatic changes certainly played a most prominent part in the fatal issue. Since then I have had an opportunity to observe a fourth toxæmic case, as well as several neurotic ones, in which accurate metabolic observations were made, and which served to confirm me more fully in the view just mentioned.

In the three toxæmic cases the so-called ammonia coefficient, instead of representing three to five per cent. of the total nitrogen of the urine, reached 32, 38, and 46 per cent. respectively. This condition clearly indicated a marked disturbance in metabolism and can readily be brought into relationship with the hepatic changes. (Since writing the above I have observed three additional cases, with the same urinary findings. In each instance recovery promptly followed the induction of abortion.)

Since observing my case of acute yellow atrophy of the liver accompanying hyperemesis, I have carefully searched the literature for similar observations and have found several autopsy reports, which, together with my own, make a total of twelve observations. Moreover, in five other cases reported respectively by Schmorl, Erismann, Lindemann, Davis, and Zaborski, marked fatty degeneration of the liver and kidneys was noted.

When one contrasts the extremely contradictory results obtained at autopsy upon women dying from the vomiting of pregnancy with the uniformity of the lesions observed in the twenty cases just mentioned, one cannot fail to suspect that the association between the two conditions cannot be merely accidental, but that they must bear some direct connection to one another.

Moreover, when one studies the clinical history of acute yellow atrophy one cannot fail to be impressed with the marked relationship which it and the allied states of icterus gravis, typhoid icterus, etc., bear to pregnancy. According to Lebert, Kerkring, in 1706, was the first to report the death of a pregnant woman from icterus gravis, and since that time everyone who has studied the condition has laid stress upon the association, as is indicated by the writings of Horaczek, Ozanam, Budd, Rokitansky and all subsequent investigators. Thus, Thierfelder stated that 62 per cent. of the 143 cases which he collected from the literature affected pregnant women; while Quinke estimates that more than 60 per cent. of all cases occur in women, a majority of whom are pregnant.

Of course it is well known that ordinary acute yellow atrophy of the liver usually occurs in the second half of pregnancy and particularly after the seventh month; while the fatal cases of vomiting of pregnancy are much more common in the first half of gestation. At the same time, however, exceptions occur in both directions, Beatty and Le Masson having reported cases of acute yellow atrophy at the 6th and 8th weeks respectively; while occasional deaths result from vomiting in the second half of pregnancy. If it should eventually be demonstrated that toxæmic vomiting and acute yellow atrophy are really manifestations of similar toxic processes, it would seem difficult to explain their varying behavior.

From our knowledge of the liver, it would seem that it is in a state of particular susceptibility during pregnancy, when it is much more prone to abnormal processes than at other times.

At the same time there is no doubt that the liver in pregnancy offers a locus minoris resistentiae, as is clearly shown by the occurrence of epidemics of catarrhal jaundice at that time. Thus, within the past one hundred years numerous such epidemics have been reported in which large numbers of the inhabitants in certain localities were affected. Under such circumstances the disease ran its ordinary course in men and in non-pregnant women; whereas in pregnant women it was remarkably fatal, as more than one-half the pregnancies ended in abortion of premature labor and many of the women died in coma and occasionally in convulsions.

In this connection it is interesting to recall the fact that pregnancy itself sometimes appears to be the etiological factor concerned in the production of the jaundice, as is well illustrated by the fact that certain individuals suffer with jaundice in each pregnancy. Such cases have been reported by Beking, Benedict, Schaeffer, Brauer, van der Velden, and others. In several instances it recurred in from four to six successive pregnancies, and was frequently associated with hæmoglobinæmia and hæmoglobinuria. In Benedict's case the same tendency was noted in two sisters.

Moreover it should be borne in mind that other functions of the liver are more or less seriously interfered with during pregnancy. Thus, Payer has pointed out that alimentary glycosuria is readily produced in 80 per cent. of all pregnant women. And the investigations of Strauss have shown that the ease with which such a condition can be produced in non-pregnant individuals affords a valuable index as to the degree of hepatic insufficiency. Likewise, Charrin and Guillemet have demonstrated that the liver cells of pregnant guinea pigs contain an unusually large amount of glycogen.

When one attempts to explain the significance of the changes in metabolism noted in my toxæmic cases, one finds that it is difficult to do so satisfactorily. Ever since Schmiedeberg and Schroeder pointed out that ammonia was a forerunner of urea and was converted into it in the liver, it has been assumed that any condition which interferes with complete oxidation would tend to bring about an increase in the amount of ammonia excreted and a corresponding decrease in the urea output. Minkowski went a little further and showed that the actual precursor of urea was ammonium carbamate, which by oxidation was readily converted into urea. At first glance it would therefore seem permissible to suppose that the necrotic lesions observed in the liver might interfere with the complete oxidation of nitrogenous materials and thus lead to a marked increase in the ammonia coefficient at the expense of the urea. Moreover, such a conclusion would apparently harmonise with the urinary findings in acute yellow atrophy of the liver and acute phosphorus poisoning; since in both conditions there is marked destruction of liver tissue, associated with a considerable increase in the ammonia coefficient, though according to Neuberg and Richter, the latter does not reach so high a figure as in the cases of vomiting studied by me.

On the other hand it is probable that the relation between the liver changes and the high ammonia coefficient is not so direct, and that the increased ammonia output is not necessarily a manifestation of the destruction of liver tissue, but rather indicates that an excessive amount of acid material has been set free in the circulation and whose neutrali-

zation is absolutely essential if life is to continue. Thus, Münzer believes that such an explanation holds good for both acute yellow atrophy and phosphorus poisoning and, reasoning by analogy, there is no inherent reason why it should not apply to certain cases of toxæmic vomiting of pregnancy as well. Unfortunately it is extremely difficult at present to formulate a well defined expression of opinion in this regard, as the entire doctrine of acid intoxication seems to be still *sub judice*. Thus, while diabetes is considered the classical example of intoxication with oxy-butyric acid, and the increased ammonia coefficient accompanying it merely a manifestation of an attempt to neutralize it, it must nevertheless be admitted that our knowledge of the ultimate factors concerned in the excessive production of the acid is still very fragmentary.

Another example of excessive ammonia output is found in certain cases of gastro-enteritis in children, to which Czerny and Keller directed attention in 1897. They pointed out that in such cases the ammonia coefficient frequently rose as high as 30 to 52 per cent., and were in doubt whether it was a manifestation of an acid intoxication or was directly due to some disturbance in the function of the liver, probably resulting from absorption of toxic material from the intestines. Pfaundler on the other hand contended that neither view was correct, and held that the high ammonia output was attributable almost entirely to the presence of excessive amounts of fat in the food, which was decomposed in the intestines into its component acids, which were readily absorbed and required prompt neutralization. Plausibility is lent to his contention by the fact that the ammonia coefficient can be promptly lowered by simply decreasing the amount of fat taken with the food.

Moreover, Schittenhelm has shown that in adults a considerable increase in the ammonia coefficient may be brought about by arbitrary variations in the character of the diet and by other artificial conditions. Thus, he observed that an increase in the amount of fat ingested, or the administration of dilute hydrochloric acid, would readily bring about such a condition, which would promptly disappear upon the administration of an alkali, or a change in the character of the food. Moreover, he showed very clearly that various abnormal conditions of the liver would likely lead to a similar change, and considered that variations in the ammonia coefficient of the urine might afford a fairly reliable index of the extent to which the hepatic function had become impaired.

That the absorption of toxic materials from the intestines may lead to changes in the ammonia output was shown by the experiments of Glaessner. This investigator, finding that none of the usual methods

brought about prolonged constipation in dogs, excised a portion of the intestine and replaced it in the reverse direction, so that its peristaltic movements were opposed to those of the rest of the bowel. This operation had the desired effect and the dog remained constipated for ten days to two weeks, at the end of which time an abundant stool would be passed, to be followed by another period of constipation. Careful study showed that the metabolism was of the ordinary type immediately following evacuation of the bowels, whereas the ammonia coefficient increased to double its usual value as the constipation became more marked.

To still further complicate the interpretation of the matter, Folin and Møner have shown that in individuals obtaining an insufficient amount of food, or who are actually starving, there is a marked increase in the ammonia coefficient, which in the cases studied by them reached 26.79 and 40 per cent. respectively. Moreover, the former investigator showed that the substitution of a purely vegetable for a mixed diet was attended by a marked decrease in the urea and an increase in the ammonia coefficient, while some of the nitrogenous substances, such as kreatinin, underwent a still more marked distortion.

From the considerations just adduced, it would therefore seem evident that an increase in the ammonia coefficient may or may not afford conclusive evidence of the existence of an acid intoxication, and that in the present state of our knowledge, it would be inadvisable to dogmatise too strongly concerning its significance. This is particularly the case in my own observations, as acetone, diacetic, oxy-butyric acid, and allied substances were not found in the urine, and leucin and tyrosin were likewise absent in the two cases in which they were searched for. I did not attempt to determine the alkalinity of the blood, although it is hardly likely that notable changes would have been detected, even though an underlying acid intoxication were present, since an excess of acid would immediately have been neutralized by an increased production of ammonia and thus withdrawn itself from observation.

However, it seems to me that even had we been able to determine the presence of abnormal acids in the urine, the existence of an acid intoxication would not necessarily have been demonstrated, and while we might seriously consider its possibility we should nevertheless have been unable to advance a satisfactory explanation for its production. This being the case, I feel at present that I must remain content with demonstrating that in certain cases of toxæmic vomiting of pregnancy there is a marked disturbance in metabolism, which is manifested by a great increase in the ammonia coefficient, and that it must be left to future investigations to determine whether the change is directly

due to the inability of the diseased liver to effect complete oxidation, or whether it is a manifestation of an acid intoxication or some other condition. Moreover, we are absolutely ignorant concerning the nature of the toxic material concerned, and whether it is derived from the fetus or mother.

It is difficult to give a satisfactory definition of the pernicious vomiting of pregnancy, for the reason that the gradations between the ordinary morning sickness and the more severe forms of vomiting are often so gradual as to render it difficult to predict in a given case whether the condition may continue without injury to the health of the patient, or will pass into pernicious vomiting. Generally speaking it may be said that vomiting should be regarded as pernicious in character when it occurs so frequently as to interfere seriously with taking food, or leads to marked emaciation.

We are indebted to Dubois for the classical clinical picture of pernicious vomiting, which he divided into three stages. In the first the constant vomiting is associated with considerable emaciation and frequently with a troublesome dribbling of saliva. At the same time the urine becomes scanty and highly colored and the pulse somewhat accelerated. In the second stage the vomiting becomes still more severe, the emaciation more pronounced and the breath assumes a peculiar acid and fœtid odor. As the patient becomes worse, the pulse increases in frequency and eventually there may be a slight rise in temperature. Finally in the third stage there is an apparent amelioration in the symptoms for a short time, during which the vomiting sometimes ceases and the patient and her friends become encouraged as to the outcome. Unfortunately, this is merely a transient condition, and the patient soon passes into a delirious or torpid condition and dies in coma or convulsions. During the last period there is no hope for recovery, which was not out of the question in the preceding stages.

My own experience has led me to believe that the clinical picture drawn by Dubois cannot always be followed at the bedside, as pernicious vomiting may occur either in an acute or chronic form, the latter being more frequent.

In the acute type, which according to my experience is always toxæmic in character, death may occur within ten days or two weeks after the onset of vomiting. In such cases the patient, who was previously perfectly well, or simply suffering from what appeared to be ordinary "morning sickness," suddenly begins to vomit everything she ingests, and soon presents signs of considerable prostration. The condition is usually associated with but little elevation in the pulse rate and fever is absent. After it has persisted for a number of days the patient begins to eject at frequent intervals and apparently with

but little effort considerable quantities of dark, brownish, coffee-ground like material, and soon passes into a torpid condition and later dies in coma, which is sometimes disturbed by convulsions. This variety of vomiting is not necessarily associated with great emaciation, as one of my patients died while apparently well nourished and with a pulse of 96.

In the early stages of this form of vomiting the ordinary tests show that the urine is apparently perfectly normal, though naturally it is diminished in quantity on account of the small intake of fluids. In the last stages of the disease, however, it contains albumin, blood, and various varieties of tube casts, though this may be noted only a few hours before death. As a rule the temperature is not materially elevated; but occasionally shortly before death, it may reach a considerable height, and in one of my cases, not reported in this article, it registered 108° immediately before the fatal outcome. Occasionally in the last stages of the disease the patient may present an icteric discoloration of the conjunctivæ or even a decided icterus, though the latter is exceptional.

In the chronic form on the other hand, which may be toxæmic or neurotic in origin, the vomiting may continue for weeks or months, during which the patient becomes more and more emaciated, apparently entirely as the result of the ingestion of insufficient amounts of food. Under such circumstances she gradually becomes too weak to pursue her ordinary avocations and eventually is forced to take to bed. At the same time the pulse slowly increases in frequency, fever is usually absent and the black vomit of the acute variety is lacking until the very last stages of the disease. Consciousness is preserved until shortly before death, which is to be attributed in great part to inanition; while in the acute cases it is manifestly the result of an intoxication.

That inanition is the usual cause of death in the chronic variety has been generally recognized from the time of Dubois, and its importance was particularly insisted upon by Sutugin. Moreover, it is interesting to note that Frank, in 1893, from the first study of the metabolism in this condition reached a similar conclusion, as he found that the quantity of nitrogen excreted by the urine was far greater than that taken in by the mouth.

In none of the cases which I have observed have the patients complained of disturbance in the olfactory sense, the so-called hyperosmia upon which Horwitz laid so much stress; though his observations in this regard are both interesting and significant.

The outline of the clinical history which I have just given applies particularly to cases of pernicious vomiting occurring in the first half of pregnancy. On the other hand, when it continues into the second

half of pregnancy or originates in that period, the recognition of the significance of the condition becomes more difficult and the symptoms are frequently attributed to the typical pre-eclamptic toxæmia. Moreover, when the affection is associated with jaundice it usually presents the typical clinical picture of acute yellow atrophy; while if icterus is absent and the patient is only seen after she has passed into a comatose condition, it is quite natural to mistake the condition for eclampsia, especially as examination of the urine would show the presence of albumin, casts, and frequently blood.

Hyperemesis, as indicated above, should be diagnosticated whenever the vomiting becomes so constant that the patient is unable to retain any considerable quantity of food, or presents considerable emaciation. Much more important, however, than the mere diagnosis of pernicious vomiting, is the determination as to whether one has to deal with its reflex, neurotic or toxæmic variety, since upon this point depends the treatment to be pursued.

Accordingly, whenever a woman suffers from serious vomiting, even though it may not be absolutely pernicious in type, a careful vaginal examination should be made for the purpose of detecting any abnormality of the generative tract or ovum. The existence of a displaced uterus, an ovarian cyst, or a pelvic inflammatory mass is readily detected by the usual methods; while an increase in the size of the uterus out of proportion to the supposed duration of the pregnancy should arouse suspicion as to the existence of a hydatidiform mole or hydramnios.

On the other hand, it is extremely difficult to diagnosticate decidual endometritis with certainty, although its existence should be suspected when it is known that the patient suffered from endometritis before conception, or when a dark brownish or brick-dust-colored discharge flows from the cervix. In the latter event, the occurrence of a spontaneous abortion may be expected.

If no abnormalities can be detected on the part of the generative tract or ovum, the diagnosis must lie between the neurotic or toxæmic types of vomiting. Unfortunately, as far as my experience goes, they cannot be differentiated positively by clinical symptoms, except at the terminal period of the affection, when it is too late to institute effective treatment, and therefore, our only resource lies in a thorough chemical examination of the urine, and the determination of the ammonia coefficient.

In order to make such a determination the entire amount of urine passed during the 24 hours should be collected, care being taken to place enough chloroform in the vessel to prevent decomposition. Then

the total nitrogen should be determined by the Kjeldahl method and the amounts of urea and ammonia by the methods of Schoendorf and Schlessing respectively. In normal pregnancy, and even in neurotic vomiting, the ammonia coefficient varies from three to five per cent., while in the toxæmic type it may attain immense proportions, reaching 32, 38½, and 46 per cent. respectively.

Thus far my experience with the toxæmic type of vomiting has not been sufficiently extensive to permit me to lay down definite rules as to the extent to which the ammonia coefficient may rise without particular danger to the patient; but at present it would seem that its increase to 10 or 15 per cent. would justify the diagnosis of toxæmic vomiting, and would afford an urgent indication for the prompt termination of the pregnancy.

In addition to the determination of the total nitrogen and the urea and ammonia coefficients, it is, if possible, advisable to determine the other nitrogen subdivisions, as they may possibly throw still further light upon the nature of the condition. The urine should be likewise examined for the presence of leucin and tyrosin, which were absent in my cases, but were present in several of those examined by Ewing.

Unfortunately the determination of the ammonia coefficient cannot be undertaken by the ordinary physician in his office, but demands the services of a well trained chemist. In this connection it is extremely important to note that a rough estimate of the amount of ammonia cannot be made by determining the amount of urea by the Dorenius apparatus, and assuming that a decrease in its amount indicates an increased ammonia coefficient, for the reason that with this test the ammonia as well as the urea is decomposed by the sodium hypo-bromite. Accordingly it might readily happen that the test would indicate the presence of a normal amount of urea, when in reality it was markedly diminished and its place taken by ammonia.

It is therefore to be hoped that the method of distilling the ammonia in vacuo will prove thoroughly satisfactory, as under such circumstances the determination can be made within a few hours.

In connection with the question of diagnosis it is important to direct attention to the condition of the pulse, as it is generally stated that some idea of the severity of the case can be obtained from its character and frequency. My experience, however, has led me to believe that this is not necessarily true, since in case 4 the patient died with a pulse of 96. Moreover, a rise in temperature is not nearly so common as was believed by the early observers, and many patients die without any manifestation of fever. The occurrence of the black vomit on the other hand, is a sign of the gravest value and indicates

a most serious condition; and although it cannot be said that its occurrence is necessarily indicative of death, it must nevertheless be regarded as of most ominous prognostic import.

In view of what has been said concerning the connection between acute yellow atrophy of the liver and the toxæmic type of vomiting, the occurrence of jaundice in pregnant women suffering from hyperemesis should always be regarded as ominous, and as indicating some serious derangement of the liver, rather than as a manifestation of a simple catarrhal condition.

When discussing the symptoms of the vomiting of pregnancy, particularly in the latter months, it was pointed out how readily it might be mistaken for eclampsia, especially if the patient were comatose; and Ewing has gone a step further and stated that he considers both acute yellow atrophy of the liver and eclampsia as manifestations of one and the same toxæmia. This conclusion, however, is so absolutely opposed to my own experience, which has taught me that the two diseases differ radically, whether considered from a clinical, chemical, or histological point of view, that I cannot allow it to pass unchallenged.

Clinically, eclampsia is nearly always preceded by a characteristic pre-eclamptic toxæmia, which is usually associated with pronounced general symptoms and early evidence of serious disturbance in the renal and circulatory functions—scanty urine, containing albumin and casts, and œdema. In vomiting on the other hand, the urine is practically normal in amount until shortly before death, or at least is in direct proportion to the quantity of fluid ingested; whereas in the pre-eclampsia toxæmia it is always considerably diminished, notwithstanding the administration of diuretics and of large quantities of fluid by the mouth or rectum. Moreover, in vomiting, albumin and casts usually appear only in the terminal stage of the disease; while œdema is never present.

From a chemical point of view the difference is even more striking. In eclampsia there is usually a marked decrease in the total amount of nitrogen excreted, and while there may be a considerable diminution in the urea coefficient, pronounced variations do not occur in the ammonia coefficient, though occasionally it may rise to a slight extent. In vomiting, on the other hand, the total amount of nitrogen may be quite normal, while the ammonia coefficient becomes unusually high. My own experience would seem to indicate that an increase in the ammonia coefficient is of favorable prognostic import in eclampsia; whereas its significance is just the reverse in the vomiting of pregnancy.

From a pathological point of view, the lesions in the two conditions differ so markedly that I do not see how it is possible for anyone, who has once observed them, to consider that they are at all related. In eclampsia, as was first pointed out by Jürgens, Schmorl, and others,

the lesion consists in hæmorrhagic necroses occurring in the portal spaces, dependent upon thrombotic processes in the smaller portal branches. At first they are sharply limited to the portal spaces, but as they enlarge, they invade the lobules from the periphery toward the centre; and are so characteristic that their mere presence justifies the diagnosis of eclampsia without any knowledge of the clinical history of the case. On the other hand, in the liver lesions accompanying the toxæmic vomiting of pregnancy the changes are purely degenerative in character, and begin about the central vein of the lobule and gradually extend towards its periphery. These differences are so sharply marked that it seems incredible to me that they could be confounded with one another.

After reading Ewing's article, I wrote to Schmorl, who has had the most extensive experience in the study of the liver lesions of eclampsia, and inquired whether he had ever seen the eclamptic lesions beginning in the centre of the lobules. He replied in the negative and stated that they always began in the tissue about the periphery and only invaded the lobule itself secondarily. Moreover, Opie in his article upon zonal necroses of the liver, which was based upon material studied in the Pathological Laboratory of the Johns Hopkins University, stated that the lesions in eclampsia were highly characteristic, as it was only in that disease that they began at the periphery of the lobule, while in acute yellow atrophy the central or mid-zonal areas were the first to become involved. Therefore, from my own experience, as well as that of Schmorl, I cannot understand how it is possible for one to confound the lesions in the two conditions. Moreover, when one takes into consideration the difference in the clinical history and metabolism of the two diseases, the case becomes absolutely convincing.

From the evidence at present available, it would accordingly appear that we have to deal with at least two varieties of toxæmia of pregnancy, one giving rise to eclampsia or the pre-eclamptic toxæmia and the other to the vomiting of pregnancy and acute yellow atrophy, though it is quite within the range of possibility that further research will demonstrate the existence of still other varieties.

Generally speaking it may be said that the prognosis is excellent in the reflex and neurotic forms of vomiting, provided they are properly treated. At the same time it must be admitted that patients suffering from them may succumb to inanition if proper measures are not instituted in good time.

In toxæmic vomiting, on the other hand, in view of the serious organic lesions and changes in metabolism, the prognosis is most grave and it seems safe to say that death will be the universal outcome if

the toxæmia is pronounced, unless the pregnancy is promptly interrupted. Thus far, six examples of the toxæmic type have come under my observation (and two others not mentioned in this article), in all of which I felt obliged to induce abortion, but notwithstanding it, death occurred in four instances, a mortality of 66 $\frac{2}{3}$  per cent. Of course these figures are not sufficiently large to justify one in drawing very general conclusions, but at the same time they clearly demonstrate the great gravity of the condition.

The treatment to be pursued in a given case of vomiting of pregnancy depends entirely upon the variety with which one has to deal. It is assumed that medicinal treatment has been tried without avail before the medical adviser comes to regard the case as at all serious.

If any abnormality of the generative tract or ovum be found it should be remedied as far as possible; the retro-displaced uterus should be replaced and held in position by a properly fitting pessary; ovarian tumors should be removed and inflammatory masses treated by appropriate anti-phlogistic measures. On the other hand, if hydramnios or hydatidiform mole be diagnosed the pregnancy should be promptly terminated.

If the toxæmic variety of vomiting be diagnosed, abortion should be induced as soon as its nature is fully recognized, as it would seem to offer the only chance of saving the patient, since the lesions associated with it are apparently incompatible with life if far advanced, and especially as there is no reason to suppose that they can be materially influenced by medicinal or diætic treatment. After the uterus has been emptied, the patient should be given abundant saline injections by the rectum or subcutaneously if the former are not well borne. The stomach should be washed out occasionally with a weak solution of sodium bicarbonate if the vomiting persists. No attempt should be made to feed the patient by mouth, and even ice should be withheld until the vomiting ceases, all reliance being placed upon the salt infusion and enemata and the employment of rectal feeding.

On the other hand, if the neurotic variety of vomiting is diagnosed, the treatment will depend to a considerable extent upon the impressionability of the patient. In certain exceptional cases a vigorous moral lecture may prove all that is necessary. In other instances the patient should be assured that her condition will not terminate fatally nor require the induction of abortion, and that it will probably yield to intelligent treatment. She should then be given some harmless remedy and receive the most minute directions as to the character of her food and the manner in which it should be taken. If such mild methods do not suffice, the patient should be put to bed in charge of a sensible nurse and the family and friends excluded from the room;

all feeding by the mouth should be stopped and its place taken by the administration of saline and nutritive enemata by the rectum. Occasionally it may be necessary to add small quantities of laudanum to the enemata, or to give an occasional hypodermic of morphia.

If, however, such treatment is not followed by improvement within three or four days the patient should be threatened with removal to a hospital, and if the threat does not prove effectual, it should be carried out actually and the patient placed in a private room in a well regulated hospital, where a rigorous rest cure can be instituted upon the most approved plan. In my experience such drastic measures are rarely necessary, as the modified rest cure, as outlined above, will usually be followed by the cessation of vomiting within a few days and the vast majority of patients will be on the highroad to recovery within a week.

Of course it is possible that occasional cases may not be amenable to such treatment and under such circumstances it may become necessary to resort to the induction of abortion in order to prevent death from starvation; though I believe that with an accurate diagnosis and sufficient assurance on the part of the physician, such a resort will become less and less frequently necessary, and that the operation will be reserved almost entirely for the cases of toxæmic vomiting.

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#### ON FATAL AFFECTIONS OF THE GASTRIC AND INTESTINAL MUCOSA AFTER LAPAROTOMY.

V. Franque, Prague, reports upon cases of ulceration of the stomach, due to retragrade embolism, and perforation of the small intestine, following sublimate poisoning after the ordinary and external disinfection. In the first case the removal of ovarian cysts with very firm adhesions had been followed by marked intestinal paresis, and the abdomen was reopened on account of ileus of mechanical nature; profuse diarrhœa came on and the woman died. The whole intestinal tract was filled with partially clotted blood which, as was evidenced by hundreds of erosions, came from the stomach. The second case affected a woman with tuberculous adnexal tumors and at the autopsy two ulcerations of larger size were found in the stomach. After discussing analogous cases previously recorded, V. Franque recommends that the double use of sublimate for the disinfection of the abdominal wall and also of the vagina should be abandoned.—*British Gynecological Jour.*, Feb., 1906.

## BOSTON AND THE AMERICAN MEDICAL ASSOCIATION.

By JOHN HUNTER, M.B., Toronto.

WITH railroads, as with men, the loss of character is irreparable, so G.T.R. and C.P.R. steamed out on schedule time and sped swiftly onwards through midnight darkness, and morning twilight to reach Montreal in time to connect with the Vermont Central, which landed its contingent of doctors in Boston on the eve of what has already passed into history as the record meeting of the American Medical Association. However much recent exposure of "Frenzied Finance" has impaired our faith in our fellow-men in commercial life, one class seems to retain our confidence, viz., the railroad employee. What fears haunt us as we lie down to sleep on the luxurious couch of the "sleeper," or try to rest our weary heads on our grip and overcoat as we adjust them for a pillow on the end of a seat? How little thought we give to the fact that a defect in construction of engine or cars, a loose rail, reckless speed over bridges that span wide rivers or deep ravines, along whose bed rush the turbulent waters, a misplaced switch in the network of tracks at a station, or an ill-timed dispatch of the train—any one of these could cause the instant loss of life—"That narrow, ribbon-like ray of light that separates the whence we came from the whither we go."

The reveries in our slumbers were abruptly ended at Brockville by the exit and entrance of passengers. A peep out of the window revealed such charming scenery that one was quite willing to leave his couch and go out on the rear platform of his car, in order to fully enjoy the pretty landscape and the pure balmy air of a June morning. Stretching away from the shores of Lake Ontario and the St. Lawrence River are grain fields, meadows and woodlands. Here and there were herds and flocks, quiet homes embowered in shade trees, small villages and more pretentious towns. An increasing number of large factories betoken our approach to Montreal. Leaving the big metropolis of Quebec we crossed over the great steel structure that has replaced the historic "Victoria Tubular Bridge," and passed on to the international boundary through a very pretty prairie country, studded with quaint French-Canadian homes and hamlets. The Vermont Central, better known as the "Green Mountain Route," winds its way along the valleys of the rivers. On either side are wooded hills or loftier mountain peaks. At this time of the year the rich green verdure, the wealth of flowers and shrubs, and the variegated tints of the leaves make up an exceedingly pretty picture. In the valleys and along the hill-sides are many homes and an occasional village. There is so little arable land, or at least so little under cultivation, one naturally wonders how these people

manage to live. The writer asked a railway employec. His answer was that these people are quite content on an annual income of one hundred dollars over current expenses. However this may be they certainly keep their houses tastily painted and their lawns in splendid order. The frugal habits of these people who live amidst such beautiful scenery reminds us of a Scottish story. Sandy was jollied by his neighbor about tethering his cow on a barren hillock. His reply was: "There may be no much grass, but, aye mon, what a fine view she has." This may explain why a rather meagre bill of fare on the dining car costs from one and a half to two dollars. A large percentage of the cost must be charged up to the fine view the traveler enjoys, as the dainty morsels of proteids and carbo-hydrates quickly disappear. The "sights" throughout the last hundred miles of our journey were those characteristic of the Eastern States—every village, town and city a busy hive of industry.

Boston was reached about 9 p.m. The reception committee assured us the hotels were all full, however they directed us to very convenient and comfortable quarters. The real value and enjoyment derived from a trip of this kind depend very largely on two factors, viz., good health and tireless energy. The former, with its buoyancy of spirits, is best maintained by a cold bath at 5 a.m. followed by a brisk walk, of a couple of hours, through the parks and residential parts of the city, and the latter is inspired by an insatiable desire to see, hear and learn as much as possible.

Boston is one of the oldest and most famous cities on this continent. It was in its harbor, in 1773, the historic "Tea Party" took place, when men masked as Indians threw a freshly arrived cargo of tea overboard. It was in these stormy times the "Boston Baked Beans" came into repute. "Those were the days of the greatest usefulness of the far-famed baked beans. To the settler, tramping of a Sunday to his three-service all-day worship, gun on shoulder, and eye for the lurking savage, it was more satisfying to the inner man to find on returning to his rude house that the smoking bean pot snugly ensconced in the embers, had been cooking in his absence, and was ready to supply his system with that toothsome trinity of proteids, carbo-hydrates and fats—the Boston Baked Beans." The most characteristic trait of Boston is the placid air of refinement that seems to prevail everywhere. The style of architecture, the clean streets, the stately municipal buildings, the large number of churches, colleges, schools and hospitals, quite justify the Bostonians in their claim of being the Athens of America. On the residential streets the buildings are of red brick, four stories high, with bow windows. There are no lawns or trees as the houses are on a line with the brick sidewalks. The central part of the business—and

oldest—part of the city, resembles the hub of a wheel. The streets, like spokes, converge into it from the water front that surrounds the peninsula on which the city is built. They have followed the early cow-paths and trails, and are extremely crooked and tortuous. There are very beautiful avenues, flower gardens and parks. Many of the hotels and several of the business places were adorned with bunting and mottoes in honor of the visiting doctors. One motto was: "Physicians are the unadorned ministers of the Gospel. They restore the crippled hand to the sanctity of usefulness."

Boston has its full quota of historic buildings, amongst which are the "Old South Church," "King's Chapel," and the "Old Corner Blook Store." Of the newer structures the most attractive are the State House, Faneuil Hall, and the Public Library, with its 900,000 volumes. The pile of greatest interest to physicians are the new buildings of the Harvard Medical School. These are on Longwood avenue, on the outskirts of the newer portion of the city. They form three sides of a very large square, and their massive marble walls present a most imposing spectacle. Pierpont Morgan, Rockefeller and many other millionaires gave munificent contributions. On the wide piazza in front of the buildings were hundreds of tiny tables. Little groups gathered around these every afternoon from 4 to 6. Light refreshments were served by the young ladies of Boston. These were very attentive and courteous, and with their white dresses, rosettes on their heads, and broad crimson ribbons passing over their shoulders, made these afternoon teas quite spectacular and enjoyable.

The Mechanic's Building, a massive structure used for exhibition purposes, was utilized for the opening meeting, for the reception given by the local physicians to President Mayo, and for the display of exhibits. A word about the exhibits. These show how closely allied to medicine are the chemical and physical sciences. There were all the new devices for the extraction of medicinal elements, from the mineral, vegetable, and animal kingdoms; electrical appliances for furnishing all degrees of heat, light and shades of color. It is strange, when so much is said about the healing virtues of light, heat and electric baths, and of the destructive effects on bacteria of blue or other rays, why any one needs to die from an infectious disease. The shelves of the medical publishers were filled with books, journals and periodicals. The display of automobiles was very poor, although these are very extensively used by American physicians.

#### THE GENERAL MEETINGS.

At 10.30, on Tuesday, the retiring president, Dr. McMurtry, called the meeting to order. The venerable octogenarian chaplain of the U.S.

Senate, Rev. Edward Everett Hale, made prayer. Addresses of welcome were given by Gov. Guild, President Eliot, of Harvard University, Mayor Fitzgerald and President-elect William J. Mayo, M.D., Rochester, Minn. President Eliot is aged, tall, slight, with fine features of classic mold. His address recalled many achievements in medicine and kindred sciences. The Governor and Mayor are middle-aged, and of the aggressive political type. Their orations were brimful of patriotic jubilation. It is extremely amusing to Canadians to hear otherwise sensible men extolling the wondrous brand of liberty and freedom the United States obtained on separating from England. Barring the mooted question as to which is the better form of government, "A Constitutional Monarchy or a Republic," what iota of liberty or freedom does a citizen of the United States enjoy that is denied to a Canadian or any other British subject? Another feature in the addresses of welcome was noticed by the visitors, viz., either the entire absence of any, or very meagre, reference to the scientific achievements of other countries. This oversight was very remarkable in face of the fact that probably ninety-four per cent. of all the educated, brainy men in the U. S. were either born in Canada, Great Britain, France or Germany, or are the direct descendants of these peoples.

President-elect Wm. J. Mayo, of the obscure prairie town of Rochester, Minnesota, wore his high honors most gracefully. He is of medium size, dark hair turning to silvery gray, smooth face, classic features that betoken a keenly perceptive, studious mind. His style and tone of voice are those of the lecturer, and were in marked contrast to the florid, Irish eloquence of the politicians who preceded him. He denounced the effete local licensing system, in vogue in the States as with us. He urged raising the standard of medical education and granting national licenses. The reception given to Doctor Mayo by the local physicians, on Wednesday night, would have done honor to President Roosevelt. There were eight or ten thousand present; and he performed the onerous task of shaking hands with most of them. A choir of doctors sang several songs. The young medicos enjoyed waltzing with the pretty waitresses of our afternoon teas. Refreshments were in bounteous profusion.

At the second general meeting the oration on medicine was given by Dr. Frederick C. Shattuck, of Boston. The title was "How Progress Comes in Medicine." The one on surgery, title "The Nature and Progress of Malignant Disease," was delivered by Joseph D. Bryant, of New York. These were very able and scholarly efforts, but to the writer, who had the pleasure of hearing Osler's addresses in Montreal and Toronto, they scarcely came up to the latter's standard in ideals, breadth of culture, and felicity of expression. In the oration on State Medicine, Dr. Sanders, of Alabama, drew a picture of the

terrible ravages of tuberculosis amongst the negro population of the south.

#### SECTION MEETINGS.

These were held in one or two churches, the Y.M.C.A. public halls and in the lecture rooms of Harvard and Tufts Medical Colleges, and were largely attended. There were several joint meetings.

Many well known physicians, surgeons and specialists contributed papers or took an active part in the discussions. They say it is an unwritten rule of this Association that differences of opinion can be expressed emphatically without the speaker being accused of either rudeness or wanting in generosity. Drs. Ross, Shepherd, Mills, Hastings, Ryerson and Wishart were the representatives of Canadian medicine.

The printed programme not only gave the names of those who contributed papers and were to take part in the discussions, but also gave very full abstracts of the papers themselves, so one knew pretty well what to expect. In the section on medicine, amongst others, appear such well known names as Jacobi, Cabot, Billings, Musser, J. C. Wilson, Anders, N. S. Davis, Barker. In surgery and anatomy, Mayo, Keen, Morris, Halsted, Weir, Bryan, Trendelburg, Ochsner, Ferguson. In Obstetrics and Diseases of Women, Noble, Cullen, Mann, Dudley, Hirst, Marcy. In Diseases of Children, Rotch, Sachs, Northrup, Koplik, Fischer, Friedlander. In Pharmacology and Therapeutics, Solis, Cohen, Wood, Einhorn, Hallberg. In Pathology and Physiology, Vaughan, Christian, Tyzzer, Hollenbek, Hemmeter. In Hygiene and Sanitary Science, Lewis, Chapin, Morrow, Max Joseph, Carstein, Keyes, Knopf, Woodruff. In Mental and Nervous Diseases, Sinkler, Langdon, McBride, Dercum. In Ophthalmology, Laryngology and Otology, Taylor, Weeks, Holmes, Coleman, Farr, Wylie, Curtis, Blake, Ingals. Neither time nor space permits of any abstracts of papers or discussions in this article, but very full reports will be found in the medical journals. These will well repay a careful reading. One note may be added in reference to the joint meetings of physicians, surgeons and specialists. Do such re-unions mean a broader outlook for the specialist, or his extermination?

We are told that the achievements of many of "The maim, the halt and the blind," are a challenge to the sound and the strong to utilize their unimpaired powers for still greater things, so the example set by the presence at Boston of a large contingent of physicians from San Francisco, who—notwithstanding the calamity that so suddenly left their proud city in ruins, their homes in ashes, the earnings of a lifetime swept away, and their future ominously clouded—travelled across a continent in order to help their National Association and to help them-

selves the better to relieve suffering. Surely such heroic devotion to a profession should be a challenge to every Canadian physician from Halifax to Victoria "whose lines have fallen in pleasant places to make any sacrifice needed to assure his presence at the coming meeting of the British Medical Association in Toronto from August 21st to 25th.

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### SUPPURATIVE MENINGITIS FROM EAR DISEASE.

By G. STERLING RYERSON, M.D., L.R.C.S.E.

Professor of Ophthalmology and Otolaryngology, Medical Faculty, University of Toronto.

It has long been known that chronic suppuration of the middle ear stands in causative relation to abscess of the brain, but it is only recently that it is becoming recognized that suppurative meningitis is a not-infrequent result of acute suppurative inflammation of the middle ear. It, therefore, becomes of the greatest importance that these cases of acute inflammation of the middle ear should receive prompt, early and efficient treatment.

The route by which infection may be carried from septic conditions of the middle ear, mastoid and internal ear are, (1) from erosion of congenital absence of part of the carotid canal, thereby enabling the of pus by a series of cells which occasionally exist, running through erosion of the roof of the tympanum, and congenital absence of the tegman, which is a much more common condition than is generally supposed, at best the bony wall is extremely thin; (2) by the passage of pus by a series of cells which occasionally exist, running through the petrous portion of the temporal bone and having an opening into the cavum tympani, above the orifice of the Eustachian tube and opening at the other end into the middle fossa of the skull close to the Gasserian ganglion; (3) the canal of the facial nerve is occasionally the means of entrance to the cranial cavity; (4) from the mastoid antrum from caries or necrosis of its walls, this rarely if ever occurs in acute cases; (5) from the labyrinth and through the internal auditory meatus, through perforation of the superior semicircular canal and by the aqueductus vestibuli.

The patient complains of headache, anorixia and general malaise. The pulse becomes quick and full. The headache increases in intensity and is usually referred to the affected side at first, but gradually extends to the whole head. It is usually much worse at night. The temperature rises to 102° or 103°. Intolerance of light manifests itself, together with sluggish pupils, which are often of unequal size. Optic neuritis as is usually the case in increasing intracranial pressure, may generally be observed. Convergent paralytic strabismus, of the opposite side,

frequently occurs. The patient becomes lethargic, then comatose and dies.

Unfortunately, the patient is rarely seen during the early stages of the disease, as the symptoms are intermittent and he thinks he is getting better. A sudden exacerbation takes place and the surgeon is summoned, often too late. When seen at the beginning a radical operation of the mastoid gives the best hope of relief. Free drainage and antiseptic dressing of the affected area is indicated. If it is found upon obtaining a culture from the part that streptococci are present, the antitoxin may be tried. Ice bags should be applied to the head and calomel and morphine administered.

The prognosis is bad at the best and the moral of this brief article, founded on recent experience, is don't neglect an apparently unimportant discharge from the ear. Attend to it promptly. Don't delude yourself and the patient by telling him that he "will grow out of it." In many cases the discharge ceases spontaneously to reappear at unexpected and most inconvenient times. It is a source of danger to life and a serious handicap, for many of the best insurance companies will not accept applicants suffering from discharge from the ear. Do your whole duty by patients suffering from middle ear discharge, for purulent discharge always comes from the middle ear and not from the external canal, by arresting it as soon as possible.

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#### LIGHT AND CANCER OF THE SKIN.

Dr. J. Nevins Hyde concludes his article on the relationship of skin cancer and light as follows:—

1. The skin of the human body in a certain proportion of individuals, and in these only, is hypersensitive to the action of the actinic rays of the spectrum.

2. This hypersensitiveness may be exhibited in the production of either hyperemia, pigmentation, telangiectasis, atrophy, hyperkeratosis or cancerosis of the skin, or by all, at times, in a determined order of succession.

3. In the form of childhood cancerosis known as exoderma pigmentosum, the pigmentation, telangiectasis, atrophy, hyperkeratosis and cancerosis of the skin resulting from exposure to the rays of light are exhibited early in life, instances of this disorder being exceedingly rare.

4. Pigmentation, telangiectasis, atrophy, hyperkeratosis and cancerosis of the skin occur in adults much more frequently than in childhood, reaction to the play of actinic rays of light upon the surface being chiefly determined after the middle period of life has been reached.

5. Physiological pigmentation of the skin in the colored races seems to furnish relative immunity against cancerosis of that organ.—*Boston Med. and Surg. Jour. and Am. Jour. Med. Sc.*

## QUEBEC MEDICAL NEWS

Conducted by MALCOLM MacKAY, B.A., M.D., Windsor Mills, Que.

The great extent to which the milk supply of Montreal affects the infantile mortality of the city has of late years been a matter of concern to the civic Health Department. Each year it has become more and more evident that more stringent regulations were required in order to supply purer milk, and the committee will, it is hoped, soon be able to have passed a new by-law which will adequately cover the case. Drs. Dagenais, L. Laberge, E. Laberge, McCarrey, Demers and Lesperance, have framed the law in question, and in particular it deals with the cooling, airing and straining of milk; the cleaning of cans, and the keeping of the dairy and stables in proper sanitary condition. More inspectors will be demanded for the examination of milk at the stations and wharfs, and an endeavor will be made to secure better accommodation for the milk cans both on the trains and at the stations. A special clause will be inserted in the by-law relating to the number of bacteria allowable in milk offered for consumption, and efforts will be made to rigidly enforce this provision. Another clause will ask that the civic Board of Health combine with the Provincial Board, so that farms, not only in the Island of Montreal, but for many miles distant can be inspected in order that dairy hands can be instructed as to hygienic methods of milking, bottling, cleanliness, etc. The interests of milkmen who import milk into the city, and who are often the victims of milk vendors miles away, will be carefully protected under the by-law, in order that the blame may be promptly fastened upon the guilty individual. It is interesting to note that at the Recorder's Court at the trial of a milkman, charged with delivering skimmed milk, Mr. Hersey, the city analyst, when in the box, remarked that the local standard of fatty matter in milk was 3 per cent. This is about one-quarter of one per cent. lower than the standard in many cities, and the new by-law provides for the raising of this standard to 3.25 per cent.

In conjunction with the efforts of the Pure Milk League, which is making extensive preparations for a vigorous campaign this year, these plans should prevent to a large extent the infant mortality, which reaches such dreadful figures in the hot summer months.

During the month past the Anti-Tuberculosis League has been continuing its good work. The inspector has made 421 visits and 82 disinfections. 1,990 sputum cups have been distributed, as well as 591 pamphlets. 153 consultations were given at the dispensary, including 37 male patients. In the corresponding month last year there were 57

consultations and 12 male patients. The League has been compelled to look further from the city than Shakespeare road for a suitable summer camp, as there have been objections raised in regard to this site. The subscriptions have been large and numerous during the month and the work is progressing favorably.

Dr. Louis de Lotbiniere Harwood has been appointed general superintendent of the Notre Dame Hospital in place of Dr. Lachapelle, resigned. As this appointment carries with it the chairmanship of the medical board, the new superintendent is now in full control.

Eighteen nurses have just graduated from the Royal Victoria Hospital. Dr. C. E. Martin delivered the address and Lady Drummond presented the diplomas and medals. More than one hundred and fifty nurses have graduated since the inauguration of the training school in 1894.

The Sacred Heart Hospital, Sherbrooke, is about to arrange for extensive changes. The present building is to be converted into a home for old and infirm people, and a new hospital is to be erected at the cost of \$100,000. The site for the new building has already been bought and all indications point to the rapid carrying out of the plans laid down.

At the twelfth annual meeting of the Samaritan Hospital the secretary's report showed that 157 patients had been received during the past year, and 275 operations performed, with a mortality of seven.

After the usual business the officers for the ensuing year were elected. The following is the medical staff: Sir William Hingston, consulting surgeon; Sir J. Grant and Dr. Reddy, consulting physicians; Dr. Smith, surgeon in chief; Dr. S. F. Wilson, surgeon; Drs. Johnston, Field, Hull, Sharp, Smythe, Carmichael, Browne, Allan, assistant surgeons, Dr. Williams, pathologist; Dr. Ross, laryngologist; Drs. Howell and Donelly, anaesthetists.

The summer courses in post-graduate work have been carried out during the month of June, beginning on June 4th and ending on June 30th. In so far as possible clashing of the general subjects has been avoided. In times past it was impossible to do justice to a general course on account of the overlapping of the hours devoted to the different branches, but this year great improvements have been made in this respect. Exceptional opportunities have been given for clinical work, there being abundance of material. The new Montreal Maternity has afforded increased opportunities for studying obstetrics, and the special branches, especially neurology, have also received greater attention than heretofore.

## CURRENT CANADIAN MEDICAL LITERATURE.

The Dominion Medical Monthly, May, 1906.

### CRIMINAL ANTHROPOLOGY.

Mr. W. P. Archibald, of Ottawa, contributes a paper upon the subject of criminology. In the first place the writer condemns the primitive method of treating criminals. He quotes, approvingly, the old axiom that "Crime thrives upon very severe penalties." After eighty years of the transportation system it was abandoned as a failure. In later years more methods have come into operation. In 1899 the parole system was adopted in Canada, and since then 1,082 paroles have been granted. Of this number, 61 per cent. have completed their sentences under license; and 325, or 30 per cent. more are on parole and respecting its conditions. It costs \$254 a year to maintain a prisoner, whereas the 222 on parole last year earned \$100,000 for their own support and that of their families. Of the 1,082 allowed out on parole, 76 had their licenses cancelled for non-compliance with conditions, and 24 had their licenses forfeited by subsequent convictions. It appears from the statistics of this country that the number of criminals under 20 years is increasing and now amounts to 12 per cent. of the total number.

A careful resumé is given of the workings of the parole system in some parts of the States. In the State of Michigan two institutions paroled a large number of criminals, who earned \$587,711. In these two large institutions about 20 per cent. broke the conditions of their paroles and were returned. After a careful comparison of the Canadian system with that of the United States, the writer thinks the former the better plan.

With regard to the recidivist class of criminals it is held that efforts should be made to lessen their numbers. The Swiss system of indeterminate sentences has reduced them from 75 to 4 per cent. of all criminals. When it becomes clear that a criminal is incurably a recidivist it is better for both himself and society that he should be relegated to a prison life. Strong steps should be taken to lessen the number of tramps and beggars. Those who do not work or who beg are very dangerous to the community. Very many of our worst crimes are committed by tramps; and the step from begging to taking your purse by force is not a long one. The introduction of the indefinite sentence system speedily reduces the numbers of the recidivist class.

The treatment of the criminal classes is spoken of hopefully. Many persons who have committed grave wrongs, but who have been in prison,

have reformed themselves; and, likewise, this is known to be true among the inmates of our prisons. The parole system permits of a thorough study of the person before he is granted his full liberty. At the moment a prisoner has completed his time and is set at liberty, he may still be a criminal at heart. Here comes in the value of the parole system.

#### THE SIGNIFICANCE OF SPRING FEVER.

W. H. Birchmore, M.D., Brooklyn, N.Y., contributes an account of a case which he designates by the foregoing name. The author of the paper contends that the disease is of very serious import to the mental, moral, and physical state of the patient, and that the true nature of the disease should be recognized. He refers to the pathology of the layity who speak of the spring and autumn, the summer madness, and the winter rheums.

The term spring fever is used to designate a peculiar condition of the nervous system, which occurs during the hot spells of spring from about the 20th April to the 8th June. The disease occurs in able-bodied, young men, between 17 and 27 years of age. The person is taken with a sensation in ability to do or do anything. This condition comes to suddenly and is accompanied by a state of mental collapse. There is complete nervous unsteadiness. To the nervous irritability and muscular weakness, there are added a quiver in the voice and a meaningless giggle. There is usually slight fever and the pulse is very irregular. The breathing may be jerky.

The condition is attributed to supernutrition during the cold weather, while the person may not be taking sufficient general exercise. In this way the nerve reflexes become overcharged and a few hot days bring the collapse.

The treatment recommended is a cool bath and a saline purge, rest in bed and the administration of hyoscyamin and camphor or monobromide. *Viratrum viride* is highly praised as a means of lowering the central hyperæmia in these cases. The diet must be reduced to light articles. The hyoscyamin is continued to procure sleep and the *viratrum* to allay fever and irritability and calm the pulse.

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The Montreal Medical Journal, May, 1906.

#### THE QUESTION OF IMMUNITY.

This topic is discussed at length by Dr. A. G. Nicholls. He reviews the literature to the present date. On one hand there are those who regard immunity as the result of certain special cells, the phagocytes; and, on the other, those who hold that the protection is due to properties in the serum, the humoralists. It appears now in the light of recent events that there is truth in both.

The paper discusses the new views upon the opsonins, which act upon the bacteria so as to make them more ready prey for the phagocytes. In this way both humoralists and the phagocytists are partially correct, but neither represents the whole truth.

The paper deals fully with the tendency of the toxins of certain germs to attack certain tissues in the system. To this property the name "tropine" has been given. The protective substances are called "auto-tropine." Certain lysins are found in the blood as in cholera and typhoid fever, which dissolve the bacilli. The production of opsonins, lysins, agglutinins, and vaccines is throwing much light upon the subject of infection and immunity. The production of vaccines is now coming to occupy a prominent place in the scientific study and treatment of all forms of infections. It may be that the researches on the opsonins will be the means of bringing new truths to light.

#### SURGICAL TREATMENT OF GENU VALGUM PARATYPTICUM.

In this article Dr. W. G. Turner gives an account of Prof. Lange's method of operation for such cases. When the knee flexors are paralyzed and the quadriceps retains its activity, there results much deformity at the knee. With this there is usually some valgus at the foot.

With regard to the foot the peroneus nevis is united to the navicular bone and the flexor digitorum to the tibiatis posticus and both muscles shortened after Lange's method.

With regard to the knee joint an incision is made from the insertion of the sartorius upwards for four and a half inches. This muscle and the semi-tendinosus and semi-membranosus are isolated well up to the muscle bellies. The capsule of the joint is defined. The leg is flexed to an angle of 170 degrees. Strong silk is used to shorten the capsule, extending from a firm hold in the periostium of the femur to that of the tibia. The semi-tendinosus and membranosus are then shortened until they are quite taut. This is closed with a subcutaneous drain, and the leg fixed by plaster in partial flexion.

In ten days the sutures are removed and slight extension made. The extension is repeated several times with fixation between séances. By the end of three months the extremity is straightened. The foot is fixed at right angles to the leg. In three months the cast is removed and massage practiced for some months, together with muscular exercise and gradual weight bearing.

#### HYSTERICAL SWELLING OF THE HAND.

Dr. A. H. Gordon reports an interesting case of hysterical swelling of the left hand. The hand was tensely swollen, of a bluish-white

color, and colder than the other. There was neither pitting on pressure nor spontaneous pain, but some tenderness on pressure and a feeling of heaviness. The movements of the hand almost gone, sensation of pain present, but those for heat and cold and touch absent.

#### CHOLELITHIASIS WITH FAT NECROSIS.

This case is put on record by Dr. J. Alex. Hutchison. On opening the abdomen a large amount of bile-stained serum escaped. Gallstones were found in the gall bladder, and these were removed. The head of the pancreas appeared to be in a gangrenous condition, and there were several areas of fat necrosis, with marked peritonitis. The condition of the patient was very unpromising, but by the aid of subcutaneous injections of strychnia, camphor and ether, hot rectal salines, with subcutaneous salines, and external heat, she rallied.

#### EXTIRPATION OF THE TEAR SACS.

Dr. Fred T. Tooke Strong recommends the removal of the lacrimal sacs in cases of chronic inflammation in them due to stricture in the nasal ducts. Obstruction in the nasal ducts may be due to engorgement of the subperiosteal veins, in which case probing is of no use. The method of removing the sacs is then fully described, as practised by Axenfeld. The writer, however, prefers a general anæsthetic to the use of cocaine. The field of operation is rendered as aseptic as possible by soap and water and bichloride of mercury.

The initial incision is made from the inner canthus directly above the internal angular ligament, two or three millimeters in front of the crista lacrimalis. The incision should be directed downwards and outwards in a crescentic direction for about two and a half centimetres. This incision must be quite deep, cutting through the periosteum. A shorter incision than the one I have specified should not be attempted; there are occasions where a very prominent crista lacrimalis will almost occlude a view of the sac in the underlying fossa, and unless an aperture is made sufficiently large to expose this fossa and its contents there is always the danger of leaving a part of the secreting membrane of the sac in situ. Subsequent fistula formation is the inevitable result.

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The Maritime Medical News, May, 1906.

#### CEREBRO-SPINAL MENINGITIS.

Dr. H. K. Macdonald, of Lunenburg, N.S., describes an epidemic of this disease which occurred in the district.

The incubation period was about ten to twelve days. The epidemic was regarded as contagious, there being good reasons for this view. This epidemic occurred in mid-summer.

The treatment adopted was quiet in a darkened, ventilated room; calomel to move the bowels; counter irritation to the spine and back with mustard; morphia for the relief of pain and spasms; calcium sulphide appeared to be beneficial; and, during convalescence, potassium iodide, and massage, strychnia and general tonics. Lumbar puncture in suitable cases may be useful, and was adopted in a few instances. For the resulting paralysis, massage was found to be of considerable value.

#### EXTRAVASATION OF URINE FROM RUPTURED URETHRA.

The patient reported by Dr. J. W. T. Paton was 52 years of age. He had a stricture resulting from an attack of gonorrhœa in youth. When straining to void urine, the urethra ruptured. The perineum was incised with a catheter in situ. The scrotum and penis had free incisions made in them also. Later on incisions were made in the abdominal walls. Hot fomenta, of carbolic acid were applied of 1 in 100, and tonics of quinine and iron ordered. As the strictures became dilated the fistulæ at first formed gradually closed. To complete the cure an internal urethrotomy was performed.

#### ACUTE OTITIS MEDIA.

Dr. R. E. Mathers contributes a paper on this subject. He advocates incision of the membrane tympani to save the other adjoining parts from infection. If the disease extends to the labyrinth there will be nausea, dizziness and deafness.

The treatment at the commencement of the attack is rest in bed, a good saline cathartic, light diet, avoid all stimulants, and local blood letting, as leeches. The use of dry heat as a hot water bag gives much relief. Very gentle politization of the ear may be tried after the nasopharynx has been cleansed. It is much harder to heal a drum membrane that has ruptured than one that has been incised. When the membrane has been opened the ear should be dried carefully and some antiseptic powder insufflated into it. This treatment should be continued.

#### A CORRECTION.

The abstract on "Starvation locking the bowels for ten days to two weeks" which appeared in the March issue of THE CANADA LANCET should have been credited to *Surgery, Gynecology and Obstetrics*. Chicago.

# CURRENT MEDICAL LITERATURE

## MEDICINE.

Under the charge of A. J. MACKENZIE, B.A., M.B., Toronto.

### MERCURY IN TUBERCULOUS MENINGITIS.

The patient of Whitcombe-Brown was a girl one year old. The usual symptoms of tuberculous meningitis developed. On the fourth day inunctions of the Ung. Hydrargyri were commenced, while the perchloride and the iodide and bromide of potassium was given by the mouth. The symptoms continued for four days, when a marked improvement was noted. From this time convalescence was slow but steady, and in six weeks from the first appearance of symptoms all the nervous and muscular disturbances were at an end. The report of the case was made at this time. The inunctions were being continued, applied at the nape of the neck or between the shoulders, a piece as large as a filbert nut being rubbed in once a day. For the first fortnight this was applied twice a day. A mixture, two and a half minims of perchloride of mercury, one grain of iodide of potassium, and two grains of bromide of potassium, with syrup and water every four hours, was alternated with the syrup of iodide of iron. The patient was on a full milk diet with beef tea and cod-liver oil emulsion. Lumbar puncture was impossible, as the parents would not consent. As there were difficulties in connection with obtaining an opsonic curve, tuberculin was not tried. There seems, however, little doubt that this was a case of tuberculous meningitis. Three medical men, each without previous knowledge of the opinion expressed by the others, at once gave the same diagnosis.

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### PHYSICAL EDUCATION AS AN INTEGRAL PART OF A COLLEGIATE EDUCATION.

In the spring of 1904 the Board of Trustees of the University of Pennsylvania made a course in physical education a part of the university curriculum, for students under twenty-one years of age, and upon all over that age for whom the director may consider it advisable.

A broad distinction must be made between athletics and physical education. In most athletic games the education of the body is a mere incident and not at all of an educational nature.

Professor McKenzie adopted a scheme of physical education of which the main requirements are:—

(1) Increased respiratory; (2) developments of the neglected muscle groups of the arms, chest and abdomen, and (3) the training of neuro muscular control which is lamentably lacking in so many cases that present themselves for examination. The great mass of men must begin with the simplest movements and exercises, going to more complicated work as progress points out to be necessary. In this way the student receives a complete education of his strength, speed, agility and endurance besides an acquaintance with the elementary movements of games and sports.

In an analysis of the first 1,000 men examined, Dr. McKenzie found that 594 showed marked defects of some sort, 160 have uneven shoulders, the right being lower in all than twenty cases. 84 showed well advanced lateral curvature of the spine. In 209 cases the chest was flattened and the shoulders round to the extent of interfering with respiratory movements. All these cases were capable of being straightened and developed by proper exercises. 217 men showed a breaking down of the arches of the foot. Hernia, unprotected, was found in 12 cases and gastro-intestinal trouble in 200 more.

Dr. McKenzie began with 600 men on his class list; 184 were excused as being on teams, and 77 were physically disabled, making a total of 861 men. The work was popular from the start, and when weather permitted was conducted in the open air.

In the matter of eyes a careful examination was held which revealed many unexpected conditions. As a result of this work it has been shown that there was a crying need for this systematic inspection and work, as vital and pressing as any developments along intellectual lines, for a sound body is essential to a sound mind, and this work and report of Dr. McKenzie shows how much has been neglected in college circles. Ordinarily the men who use a gymnasium voluntarily, are men who do not especially need it. The average college student must be forced into it as a part of his curriculum.—*Medical Times*.—May, 1905.

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#### FOOTBALL AND MORAL HEALTH.

In the *Medical Record*, April 7th, Howard, of Baltimore, has a defence of football, which has evoked considerable interest, when at this time there is a strong movement against the American game, founded to a considerable degree on the occurrence of injuries pointed out in many cases by the medical profession. The writer says:

"As a physician who daily sees mental and moral instabilities—the result of indifferent fathers, coddling mothers, and complacent teachers I say to college authorities: Place no barriers, subjectively or objectively, against football. I know of many miserable beings who, had they been allowed, or forced, at school and college to play football, would have been men to-day able to give the world lifts in science and literature—individuals who are wrecks because they were not allowed to run the risk of a bruised limb, or to learn Nature's laws and of physiological growth.

"I have deep feeling in this matter, and say without reservation that a boy with a broken leg from football has a far brighter outlook for future success in life than the coddled son of a mother who will not look physiological facts in the face and learn that physical expression of activity is the only healthy channel for the expenditure of youthful energy, and if prevented this energy will be wasted along the line of immorality which will leave scars and wounds that last throughout a miserable existence."

He claims that the game is a great teacher, that the moral standing of the undergraduate is higher now than twenty years ago, due to games; that such contests are a natural form of activity for youth and that deprived of them youth tends to become abnormal.

The explosion of physical energy is the birthright of healthy youth. Make rules to govern the method of play, but do not discourage the normal spirit of resistance; a boy to be a man must have the physical fighting instinct, no pietetic odor, no atmosphere of timidity must rule in boys' games, let them be strong, virile, rough, dangerous if you will.

Suppression of the excessive youthful instinct for action leads to psychic perversion and bodily corruption. A standard of honor and self-denial is established in training, a feeling of emulation for health and strength is developed; a new interest is given to life and conversation, a respect for deeds and for consistency of purpose is inculcated.

"Eliminate any of the risks in the game, suppress any of the powerful animal instincts which the game must bring out, throw a mantle of pedantic authority over the rules, and you will bring about an atmosphere of timidity and effeminacy which will rob football of all its direct benefit to our youths and young men."

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## HEART FAILURE AS THE RESULT OF DEFICIENT FOOD.

Alexander Haig says that he has seen many instances in which deficient nourishment has led directly or indirectly to more or less marked heart failure. If there is a condition of slow, steady, and constant deficiency of food there comes a time when not only do the less important tissues suffer, but the heart, muscle, and brain cells begin to suffer with them to some extent. The signs of heart failure are perfectly definite and distinct, and those who know how to look for them can scarcely miss them. The writer, in relating the history of cases of this nature, points out the three chief objects of treatment, which are: the diminishing of the work of the heart, the increase of its nourishment, and for a time the administration of a tonic. In practice he gives all adults who consult him nine grains of albumin a day for each pound of body weight. He declares that although this is only a rough guide it is decidedly better than none. He also watches the temperature of the body, the condition of the blood, the ratio of the capillary reflux to blood pressure, and the other circulatory signs, and looks upon these taken together as safe and certain guides to a condition of satisfactory nourishment and nutrition.—*Medical Record*, May 26, 1906.

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THE CAUSE OF HEART BEAT.

W. H. Howell, Baltimore (*Journal A. M. A.*, June 2-9, 1906), gives an elaborate historical review of facts and theories as to the causes and mechanism of the heart beat and critically discusses the factors in the problem. From this study of the data so far as known, he concludes that the myogenic theory is the most probable of any that have been offered so far. It does not explain satisfactorily, however, the phenomenon of the co-ordination of the heart beat which can be disturbed by puncture of a particular region in the ventricular septum, although this is not better explained on the neurogenic theory. As regards the further deeper question of the initial cause of the heart beat, the most hopeful line of investigation has been that of late years, dealing with the action of the inorganic constituents of the blood on the heart beat. He objects to being quoted as holding that the calcium ions constitute the inner stimulus, the role of the calcium and sodium salts, according to the provisional hypothesis he has chosen to guide his investigations, consists in replacing the potassium and converting a part of the store of stable energy-producing material in the normal heart into an unstable easily dissociable compound, thus producing the contraction. This hypothesis, as he shews more in detail, accounts for some of the most characteristic

features of the heart beat. Whether it or any other of those proposed be correct, we may congratulate ourselves on the acquisition of the knowledge gained by the labors of the experimental physiologists of the last quarter of a century, that the inorganic salts of the blood and lymph play an essential role in the production of the heart beat.

## SURGERY.

Under the charge of H. A. BEATTY, M.D., M.R.C.S., Emr., Surgeon Toronto Western Hospital,  
Chief Surgeon Canadian Pacific Railway, Ontario Division; and  
Consulting Surgeon to the Orthopedic Hospital.

### THE SURGICAL TREATMENT OF APPENDICITIS.

The following extracts are taken from the article on appendicitis by Dr. Van Buren Knott in the *Jour. Am. Med. Association*, 14th April, 1906:—

In clean cases, either acute or chronic, the incision is made through the sheath of the right rectus muscle. The incision provides free access to the appendix, may be easily extended at will with a minimum of trauma, and is much preferable to the so-called McBurney or muscle-splitting incision.

The meso-appendix is ligated with catgut and a circular ligature of silk is thrown about the base of the appendix flush with the cecum. A pair of hemostatic forceps is placed distal to this ligature and the appendix cut away between ligature and forceps. The stump is wiped perfectly dry and its mucosa thoroughly swabbed with 95 per cent. carbolic. The stump is then covered by drawing over it the base of the meso-appendix or a fold of the cecum and retaining them in position with catgut sutures. The stump is never inverted into the cecum, as it does not seem to me to be advisable to invite infection of a raw surface by deliberately placing it in the foulest repository within reach, despite the fact that the various methods of preliminary treatment of that stump are said to have removed its absorbing power. I have had no trouble with subsequent infection of the silk ligature and the persistence of a sinus after operation.

The wound in the abdominal wall is closed with a continuous suture of No. 2 ten-day chromicized catgut, including first the peritoneum and posterior sheath of the rectus, and then carried back through the anterior sheath of that muscle and tied. The skin is closed with horse hair.

From the standpoint of operative treatment we may consider three varieties of cases in which the infection has escaped from the appendix with or without perforation of that organ: (1) A more or less localized peritoneal infection in which the general peritoneal cavity is not protected by limiting adhesions; (2) an infection sharply localized and cir-

cumscribed, the general cavity of the peritoneum being protected by a wall of adhesions; (3) a diffuse widespread infection of the entire peritoneal cavity.

1. *Abscesses Not Sharply Localized*: The existence of the first variety may or may not be suspected prior to operation. It is frequently encountered in cases which we hope will prove clean. In such cases the incision should be extended well down toward the pubes, as the following steps of the operation, which should be rapidly performed, are much facilitated thereby.

The appendix is ligated and removed and the stump disinfected and buried as already described. The portion of the peritoneal cavity involved in the septic process is then rapidly, but very gently, mopped dry with gauze packs wrung out of hot sterile water, not forgetting the cul-de-sac, which in these cases will always be found to contain a large quantity of fluid varying in character from serum to sero-pus.

In females the cul-de-sac is then rapidly opened and a large split rubber drainage tube, one-half to one inch in diameter, introduced into the vagina. The abdominal wound is closed with interrupted silkworm gut sutures. The patient is placed in bed, the head of which has been elevated at least twenty-four inches from the floor. The drainage is removed in from six to ten days, depending on the course of the case. The age of the patient need not be considered in establishing this form of drainage. I have employed it in several cases of this kind occurring in girls under five years of age.

In males a large split rubber drainage tube, five-eighths to one inch in diameter and carrying a strip of iodoform gauze which must fit quite loosely, is introduced at the lower angle of the wound to the bottom of the rectovesical pouch. Alongside this a smaller tube one-fourth inch in diameter is placed likewise leading to the bottom of the cavity. These tubes are anchored to the skin with silkworm sutures. Through the plain tube the fluid which tends to accumulate at the bottom of the cavity is aspirated every two hours until the quantity secured at two or three consecutive dressings is insignificant when aspiration is discontinued. The employment of this second tube in the manner just described greatly lessens the demand on the capillary drain of tube and gauze.

The patient is placed in bed in the elevated posture above described. If at the operation it is ascertained that the infection is practically confined to the peritoneum of the right lower abdomen and pelvis the patient is turned on his right side and kept in this position for at least twenty-four hours.

2. *Abscesses Sharply Localized*: In these cases where the septic process is sharply circumscribed and shut off from the general peritoneal

cavity by a wall of limiting adhesions the safe evacuation of the products of infection and the successful guidance of the patient to complete and permanent recovery present many and varied problems.

Roughly speaking, we may divide these cases into two classes. First, those in which the abscess is situated external to the cecum. Second, those in which it is located on the inner side of the cecum. It has been my practice in all cases belonging to the first variety to incise directly over the most prominent portion of the tumor, using every precaution not to expose the peritoneal cavity. In nearly every case this may be accomplished and the pus safely evacuated without extravasation.

3. *Diffuse Septic Peritonitis*: By this term is to be understood an inflammation involving, so far as we can tell, the entire peritoneum. I merely mention the steps of the procedure which is recommended.

(a) Incision from umbilicus to pubis in median line.

(b) Removal of appendix.

(c) Thorough irrigation of entire peritoneal cavity with hot saline solution or hot sterile water.

(d) Introduction of a large split rubber tube for drainage. In females from the cul-de-sac into vagina; in males from rectovesical pouch out through lower angle of abdominal wound and carrying a wick of iodoform gauze. In the latter a second smaller tube, without the gauze wick, is placed alongside the first, through which fluid collecting at bottom of pelvis may be aspirated.

(e) In females the abdominal wound is completely closed with interrupted sutures of silkworm gut. In males the wound is closed with the same material down to the tubes.

(f) Patient is placed in bed, the head of which has been elevated from twenty-four to thirty inches from the floor.

Operations made on patients in this condition should be rapidly performed, as they will not bear much manipulation or prolonged surgical interference.

This is the only condition in which an irrigating stream should be directed into the abdominal cavity. Its use in localized abscesses or limited peritoneal infections is most vigorously condemned.

The best results in appendicitis follow early operations.

In clean cases, acute or chronic, the operative mortality is practically nil.

The hour or day classification of appendicitis should be discarded and a pathologic classification substituted.

In spreading peritonitis immediate operation is urgently indicated.

In patients already moribund, or in those for whom the added shock of operation would determine a fatal result, operation should be delayed.

The elevated posture of the head and trunk and the resulting accumulation of septic fluids in the lowest peritoneal pouch, from which they are rapidly drained by large sized tubes, have robbed appendicitis of many of its terrors.

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### THE TREATMENT OF IMPOTENCY BY RESECTION OF THE VENA DORSALIS PENIS.

In *The International Journal of Surgery*, March, G. Frank Lydston writes on the above subject, and presents the following conclusions:—

1. The resection of the vena dorsalis penis in the treatment of impotency is an operation requiring accurate anatomic knowledge, and cannot be done subcutaneously without serious danger of injury to important parts or total failure of the operation, even granting that it is practicable, which I do not believe it is.
2. The operation, while not essentially dangerous, is neither so simple nor so easily performed as has been claimed.
3. The location of the dorsal vein is such that careful and painstaking dissection is necessary for its ligation or resection.
4. The ligation of the superficial penile veins has often been performed by those who claimed that they had ligated the dorsal vein proper. This operation upon the superficial veins is often essential to a complete operation, but when performed alone is futile.
5. The operation is beneficial in very many cases on strictly psychic grounds, but this does not militate against the advisability of its performance. The important thing for the patient is a restoration of function.
6. In some cases of impotency of organic origin the operation is not to be thought of, but in quite a wide range of cases of the kind the operation is successful, firstly, because of its mechanical effect; secondly, because of its psychic effect.
7. One of the most important elements in the cure of impotency by a properly performed resection of the vena dorsalis penis is the demonstration of the dynamic capacity through purely mechanical circulatory agencies.
8. The mechanical conditions thus secured are permanent in quite a large proportion of cases.
9. In cases of complete impotency, which are not dependent upon irremediable local causes of functional disturbance of innervation, the operation is apparently successful in fully 50 per cent. of the cases, and beneficial in probably one-half of the remainder.
10. In by far the majority of cases of impotency that come under the observation of the surgeon a trial of this operation is justifiable.

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## EDITORIAL.

### SOME LARGE FEES.

The fact that Prof. Bergman was summoned to Constantinople to see the Sultan's daughter, who was ill recently with appendicitis, recalls some instances of large fees, and the desperate and costly measures adopted by the wealthy in the case of serious illness.

In England doctors rarely make exorbitant charges for going any long distance to see their patients. Five dollars a mile is supposed to be a fair average charge, with an ordinary fee at the end of it; and several well-known surgeons are content to visit cases 100 miles away, on a line with reasonably fast and regular trains, for \$200 and their ordinary fee.

It is quite possible to combine several cases in a district, Sir Frederick Treves used to send cases to Westgate, and pay an occasional combined visit to them, and at places like Eastbourne and Torquay every consulting physician has several patients who welcome a visit.

Specialists of world-wide fame, like Prof. Pagenstecher, the German oculist, lose such large sums by two days' absence that they must perforce charge more. Dr. Pagenstecher has more than once received a fee of \$4,000 for coming to England.

French surgeons dislike leaving Paris, and charge exorbitantly for doing so. A famous living surgeon recently charged \$4,000 for going from Paris to Biarritz (a ten hours' journey) to perform a long, but simple, operation; and a well-known Paris ladies' doctor refused an offer of the same fee to go to Nice. An American woman who became suddenly ill at Cherbourg, and was visited twice a week for a month by a Paris surgeon, was horrified to receive a bill for \$20,000.

On one occasion, when the late Cecil Rhodes was ill in South Africa, an English doctor "treated" him by cable, every symptom and change being carefully telegraphed to London, and instructions sent back.

If we remember rightly Dr. Bliss rendered a bill for \$50,000 for his attendance on President Garfield. It was cut down to one-half by the Government.

A New York aural surgeon was paid some years ago a fee of \$20,000 for performing an operation on the ear of a wealthy Wisconsin miller.

Sir Morell Mackenzie was paid \$100,000 for his attendance on Emperor William of Germany.

Some years ago a London surgeon received \$20,000 for looking after a nobleman's broken arm.

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### THE PACKING-HOUSE REVELATIONS.

Following upon the terrible charges made against some of the large meat packing concerns on the United States, Dr. C. A. Hodgetts, Secretary of the Ontario Board of Health, is reported as saying:—

"Slaughter houses throughout the country, in which cattle are slaughtered for domestic purposes, should be strictly inspected by the local authorities under Government supervision. In many of these little places, he went on, cattle are slaughtered under unsanitary conditions, and without prior inspection. A system of inspection would mean that all cattle killed for domestic purposes would be healthy animals, and the slaughtering would be done under proper conditions.

"As to cities and larger towns, the slaughter houses should all be under municipal control. Whether they were sublet to companies or private individuals was of minor importance, because if municipally controlled the supervision could be rigid."

"All the packing houses," the doctor replied, to a question as to his views on that point. "should be under direct Government inspection, and every house should pay a certain fee to meet the cost of that supervision. I am glad to say that the packing houses I have seen in Canada are pretty clean, and their operations are seemingly carried out under proper conditions. But the very fact of such inspection would help the trade, because most of the packing houses export their products, and the knowledge on the part of purchasers that there was such supervision would be an additional reason for them buying from Canada. It would also prevent, at any time, unscrupulous persons getting a chance to hurt that trade."

The views above set forth by Dr. Hodgetts will meet with the approval of the public. The horrible conditions should not be allowed to occur in this country that have just been revealed south of the line. That such wrongful practices do not pay the following statements from the press clearly show:—

It is estimated that the business done by the packing houses located in Kansas City will suffer to the extent of \$10,000,000 as a result of the agitation in connection with the President's crusade against "doctored" meats. Reports of the various plants seen to-day agreed with the estimates in the telegraphic despatches of to-day that the business of the whole country would show a loss of at least \$150,000,000.

"I don't think," said Charles W. Armour, "the estimate of \$150,000,000 loss to the packers in the whole country is exaggerated. This is only a shrinkage of about ten per cent. on the total volume of business done, which, I think, is easily one and one-half billion dollars in all branches of the trade. We have complaints already from England that the canned meat trade is decreasing. It is easy to scare people five thousand miles away."

But at once the situation affected the British mind and directed the current of trade towards the home and colonial market as seen by the following remark in the British House of Commons:—

Upon the War Office vote in the House of Commons the meat scandal was brought to attention. Mr. Haldane, Secretary for War, replying, said he would be sorry for more than one reason to say that they should only buy tinned meat in the kingdom. There was such a place as the colonies, and he thought they ought to buy where they get the best and purest. He was sending out an expert to inspect tins carefully before being used.

The Canadian meat packers should see to it that the trade in this country is kept free from abuses of all kinds.

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#### THE TORONTO HOSPITAL FOR CONSUMPTIVES.

A short time ago, Dr. R. W. Bruce Smith paid a visit to the Toronto Hospital for Consumptives at Weston and reported as follows to the Provincial Secretary, Mr. W. J. Hanna:—

I made an official visit of inspection to the Toronto Free Hospital for Consumptives at Weston, May 19th, 1906, when I found 23 males, 20 females, 1 child, a total of 44 in residence. There have been 140 patients admitted during the past year and 63 deaths.

The resident staff consists of a resident physician, 3 nurses and 13 employees. The buildings at present consist of one central stone building, two shacks and nine street cars, which have been comfortably fitted up to accommodate one patient in each car.

The present capacity is for 50 patients, but the addition to be completed at once will afford additional accommodation for twenty patients. The property consists of 37 acres of land pleasantly situated, and the site is an excellent one for such an institution.

On inspection I found the wards, dormitories, beds, bedding, all neat and clean and in good order. The heating of the main building is by steam, the shacks and cars being heated by stoves. The lighting is by electricity. The water supply is satisfactory. The sewage disposal is by the septic tank system, and is satisfactory. There are proper

fire escapes from the main building and a large water tank in the attic and other provisions afford fire protection for the safety of the patients.

Careful attention is evidently paid to prepare and serve a suitable and nutritious dietary for the patients. Sixty quarts of milk and nine dozen of eggs form part of the daily bill of fare. The patients were found cheerful and contented.

Additional accommodation is urgently needed. If the expense of maintenance could be provided for, this institution might be conducted on a much larger scale without any great expenditure for buildings. The possibilities for expansion are excellent, for the site has been well chosen.

This institution has been placed upon the list of municipal sanatoria receiving Government aid, \$1.50 per week for each patient during treatment, in accordance with the terms of the act relating to municipal sanatoria.

I examined the books and found the entries neatly and correctly kept. All expenditure in connection with the institution are carefully looked after, and a careful examination of the receipts and expenditures afford satisfactory evidence of the fact that every dollar contributed for the maintenance of this institution is fully accounted for.

My visit of inspection impressed me favorably in regard to the management of the institution, and the care and attention evidently taken to afford the patients all necessary comforts and attention.

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#### PRISON REFORM.

That there are many abuses in our prison and jail system goes without arguing. At a recent meeting of those interested in this work, Dr. Goldwin Smith gave expression to some very wise words. Two points in connection with prisons had struck him as calling for remedy—the abuse of the jail, and the absence of discriminatory treatment between the different classes of offenders confined in them. He attributed the difficulty in making improvements to the existence of joint jurisdiction, and suggested arbitration to settle differences between the two authorities. The reform of the criminal was of the utmost importance.

Referring to the opposition offered by organized labor to prison work, Dr. Goldwin Smith said he had no sympathy with it, as labor was the best reformatory. All that was necessary was to see that the prisoner did not come into injurious competition through unfair advantage.

His Excellency, Earl Grey, who was received with applause, expressed great surprise at the character of the meeting. He had only

expected to meet three or four gentlemen for a private discussion. It was impossible for him as a private individual not to have very strong feelings, but constitutional obligations often prevented his giving full vent to them. Before consenting to speak in Toronto he had enquired from Premier Whitney if he would approve of his discussing the question of prison reform, quite unofficially, of course, with those interested, and Mr. Whitney had very warmly supported the idea of his doing so.

On the occasion of visits to certain provincial towns, which he preferred not to name, he had found conditions calling for urgent reform. In Montreal he had found prisoners awaiting trial detained in a way that caused one's every sense of justice to revolt. Under British law it was considered that till convicted the accused was not guilty. But in Montreal people were arrested at night, thrown into unlighted cells, and left till morning. They might be detained under the same conditions for months till tried.

As Governor-General, appeals were made to him for clemency, and one that had struck him particularly was that of a young man who had been kept four months awaiting trial for the offence of throwing a stone at a street car. His Excellency considered it was awful to think that a young man should have been kept under such conditions as he had been for an offence that both himself and Dr. Goldwin Smith might have been guilty of in the exuberance of youth. The sole purpose of putting a man in custody before trial was that he might be produced before his judges, but in the meantime he should have such treatment as he was entitled to under the presumption of innocence.

His Excellency urged that prisons should be places for the building up of character, and not for its destruction. In this respect he thought the Federal institutions far better than the municipal, and had heard of prisoners begging for longer sentences, that they might be entitled to detention in Federal prisons.

It takes a good deal to move the inertia of public indifference, but when such persons as Earl Grey and Dr. Goldwin Smith express themselves as the foregoing remarks show, there is hope. Many will recall the work of Charles Reade and others in England.

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#### THE POSITION OF QUEEN'S MEDICAL COLLEGE.

The following remarks from Dr. C. K. Clarke's address at the convocation of Queen's University are of much importance at the present moment when the whole aspect of medical education in this country is undergoing so many changes.

"A word, too, about the Medical Department of Queen's University. I do not think your Dean should take too seriously to heart any criticisms coming from a Toronto M.D. so obscure that his letter did not reveal his name. It is true that at one time it seemed difficult to know just how Queen's Medical Department could stand the pace without the resources of Toronto or McGill, but the broad educational policy adopted by the Government has settled for all time to come the future of your college, and fair-minded men everywhere delight that such is the case. If you had not as much clinical material at your disposal, as is the case in large cities, you make the best of what you have, and that is most important. I am not so certain that the one who studies a reasonable number of cases thoroughly and carefully will not be better equipped than the one who in his hurry to know everything at once, buzzes about from clinic to clinic without a clear idea of what he is attempting to get at. Now that every possible source of clinical supply has been developed you have ample material to gain the experience necessary to make your methods thorough and efficient. Some of the very best medical schools in the world are no better supplied clinically than you are, and with your new laboratories and equipment you may still keep pace with the other colleges. In medicine results are the test of efficiency, and while you have such a brilliant and capable dean, a man beloved and respected by every one who knows him, assisted by a good staff of professors, you need not worry about results.

"Queen's Medical Department is doing a work that would not be carried on by Toronto, even if Queen's disappeared. Many of the boys who are taught here would not study medicine at all if the facilities were not supplied at Kingston; the majority of those who would go on under any circumstances would pass to McGill. I think you are almost too sensitive in regard to criticism—you should take it as a compliment that you attract so much attention, and surely, when it is found expedient to have the largest medical school in Canada as well as yours under the guidance of a Queen's graduate, the cause of medical education is safe. The interests of higher education should always be identical, and the deepest thinkers everywhere will welcome progress made both in Toronto and Kingston. Queen's recognition by the Government will advance the interests of both institutions, and petty bickerings should have no place in an intelligent discussion of higher things."

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#### A NEW MODE OF USING ANTI-DIPHThERITIC SERUM.

Dr. D. Montgomerie Paton, of Melbourne, Australia, has been employing serums by the mouth for eight years in the treatment of sepsis and inflammations. He claims very excellent results. Blood plasma

of the horse and sheep are valuable in tuberculosis, while that from the ox is very useful in influenza.

In the case of the anti-diphtheritic serum, he contends that, when given by the mouth, it is invaluable in all cases where the tissues are invaded by the bacillus diphtheriæ, the staphylococcus, the streptococcus, or the bacillus coli communis. There are two elements in the serum. One of these acts on the involuntary muscle and gives it tone, while the other combats the proteolytic action of the foregoing germs.

The dose he employs is one dram four times a day; but in very acute cases he gives it twice as often. He uses a serum prepared by Parke, Davis & Company, which is specially suited for oral administration.

The treatment is so simple in all forms of sepsis, and so devoid of danger that it is worthy of a trial by the profession. The influence of this treatment on the formation of pus is quite marvellous.

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#### THE PROPAGATION OF CANCER.

In the issue of the *British Medical Journal*, for 26th May, there appeared an article by E. F. Bashford, director of the Laboratory of the Imperial Cancer Research Fund. In a series of experiments of a very extensive character he has shown the readiness with which the mouse can be infected by the implantation of a cancer nodule from another infected mouse. He has succeeded in as high as 90 per cent. of his experiments.

One of the deductions he draws from this research work is that cancer is always a local disease, and that its early removal is likely to prove curative. This is confirming by actual experiment what was coming to be recognized as a fact on clinical grounds. This justifies the early removal of all suspicious new formations.

The series can be indefinitely extended, as one mouse may be infected from another, and a third from the second, and so on. These experiments, coupled with the clinical history of cancer, seem to furnish very strong proof of the parasitic nature of the disease. The fact that the parasite has not been discovered does not prove that it is not present.

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#### THE PREVENTION OF TUBERCULOSIS.

As this disease still holds the lead at the head of the death lists from every province of the country, and state in the Union, it is important that the public should be constantly reminded of some of the laws regarding its spread and prevention. The Board of Health of the State of New Jersey has issued a bulletin from which we take a number of extracts:—

"Tuberculosis is an infectious disease; it is preventable, and in its early stages it is curable. No individual nor any portion of the body is exempt from its ravages, and the mortality caused by it exceeds that of any other ailment. It spares no nation, no class, no vocation, no age, but every person is liable to become infected and reinfected from time to time, and all should, therefore, be prepared for battle with this destroyer.

"It is so rarely transmitted at birth that this source of the disease can be disregarded, but it is acquired at all ages and the infection is always derived from a preceding case.

"The disease is caused by a micro-organism, the tubercle bacillus, and the lungs are the most common seat of the affection. Many cases of the disease are never recognized, especially when the tuberculous lesion is situated in other parts of the body than the lungs, but early diagnosis, in the incipient stages, is essential if curative and preventive measures are to be successfully applied, and in pulmonary cases laboratory examinations of sputa leave no chance for error if the tubercle bacilli are found to be present.

"Tuberculosis is a household disease, and it is not often communicated from person to person out of doors. Crowded, unventilated and unclean apartments favor the spread of tuberculosis, and its prevalence among the poor can with certainty be lessened if their dwellings can be provided with an abundance of fresh air and sunlight.

"Persons who are in good health and who dwell under favorable sanitary conditions have little to fear from tuberculosis, but where the individual is debilitated from any cause he becomes liable to contract the disease. Precautionary measures should, therefore, be uniformly applied without waiting until infection has occurred. Individual resistance to this disease is increased by residence in the country, or in localities where the atmosphere is free from dust and smoke; by avoiding excessive fatigue; by being out of doors; by avoiding all forms of dissipation; by the exercise of moderation and regularity in eating and drinking, and by obeying the laws of nature in all things.

"In New Jersey the mortality from tuberculosis has been steadily diminishing during the past seventeen years, and this fact is believed to be mainly due to the hygienic revolution which has occurred within that period.

"Consumption (phthisis, pulmonary tuberculosis), which is the most common form of tuberculosis, comprising about ninety-five per cent. of all cases of this disease, is communicated through the medium of floating droplets which the discharged by infected persons in the acts of coughing, sneezing, speaking, laughing, etc.; by dust which is infected by the presence of dried sputa; by contact between the mouth and infected

hands, pins, money, etc. ; by infected drinking cups ; by flies which carry the infected sputa upon their feet and deposit it upon food and also by other agencies which are capable of planting the tubercle bacilli upon the mucous surfaces.

"The sputum of consumptives should be destroyed before it becomes dry and is converted into dust. It may be deposited in a paper spit cup and be cast into the fire, or it may be received in a suitable dish containing water or some other liquid, and be emptied into the water closet or buried. When out of doors a pocket spit cup or soft paper or small pieces of cheese cloth may be used to receive the sputum, and after use these articles should be carried in a water-tight receptacle (tobacco pouch) and be burned as soon as possible.

"Sleeping rooms and living rooms occupied by consumptives should be kept scrupulously clean. All towels, night clothes, sheets, pillow-cases and other wash goods which are liable to be soiled by the infectious discharges from the lungs should be boiled for not less than half an hour. The floors should be in good repair, and without open cracks and crevices. They should not be swept, but should be cleaned by scrubbing, or by wiping with damp cloths. The woodwork and furniture should be frequently scrubbed with soap and water and wiped dry.

"Rugs (there should be no carpets) should be exposed to sun and air daily when practicable.

"Garments and all other articles which are injured by prolonged boiling may be disinfected by placing them, one by one, in a closely covered receptacle, with as little folding as possible, and applying to each layer of the goods, by the use of a sprinkling pot, a forty per cent. solution of formaldehyde. The articles thus treated should be removed after twelve hours and dried.

"Mattress ticking and the ticking of pillows may be disinfected by spraying with the solution of formaldehyde and enveloping the articles quickly with wet sheets or rubber blankets, and allowing them to remain covered for twelve hours.

"Upon receipt of notice that a case of pulmonary tuberculosis has appeared, the local health officer should be prepared to take such action to prevent the spread of the disease as the conditions in each case may demand."

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#### LUNATIC AND IDIOT ASYLUMS.

The thirty-eighth annual report of the inspector of these institutions contains much useful information for the year 1905.

On the 30th of September, 1895, there were 4,613 insane persons in the asylums of Ontario, whereas on 30th September, 1905, there were 6,213, or an increase in ten years of 1,600.

The total cost of the asylums was \$760,203.87 for the year. Of this amount paying patients contributed \$114,915.59. The weekly cost was \$2.32.

The report states that there is evidence to show that the asylum accommodation for the Province is inadequate. The statistics for the past ten years show that there is an increase in the number of the insane. There is now one insane person in our asylums to every 337 of the population. In England and Wales there is 1 to every 285. During the past year there were 1,130 admissions in Ontario.

The suggestion is made that there should be a manual of service for the whole system; and not allow, as at present, each institution to get up its own rules and regulations.

Trained matrons are also recommended. The advantages of having trained persons at the head of these institutions who could instruct on such important subjects as domestic science to the staff is obvious.

The report also urges that research work should be carried on and the appointment of a provincial pathologist is favorably spoken of.

The attention of the government is directed to the fact that the insane are frequently committed to our gaols. The inspector claims that as long as this power remains with magistrates the abuse will continue. Friends have them committed in this way to evade the expense of sending the insane to the asylums.

A strong plea is entered for the name "Hospital" as against the name "Asylum." In this we concur, and have often advocated the change. Insanity is a disease. Many persons dislike the idea of sending a relative to an asylum. Much of this objection would be overcome by the adoption of the word hospital for these institutions.

Throughout the report there is much useful information regarding our asylums from the various medical superintendents of these. We would advise our readers to peruse the various reports on our public institutions, and thus familiarize themselves with what is going on.

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### FINGERS, FLIES, FOOD.

As we advance in our knowledge of bacterial diseases, the modes by which they are disseminated become clearer. Many diseases are now known to be spread in food and drink, by the hands of people coming in contact with the sick, and by various insects.

Malta fever is a typical food disease, being contracted by drinking the milk of affected goats. The goats in turn are infected from each other by means of flies as a principal agency, though there may be others.

Trypanosomiasis, or the sleeping disease, which is now estimated to cause 40,000 deaths annually, is spread from man to man and animal to man by the *glossina palpalis* or the tsetse fly.

Yellow fever is spread by the *stegomyia fasciata*, a variety of mosquito, which feeds on the sick and then infects the well. It has lately been almost settled that the disease is hereditary in the *stegomyia*.

Malaria, or ague, is another well-known fly disease. It has been settled that marshes are incapable of causing malaria. There must be the *anopheles* mosquito and an ague patient to feed upon. The *hæmamoeba* taken into the mosquito matures into the infecting parasite when it is returned to man by the proboscis of the mosquito.

Texas fever is another typical case of disease being spread by one of the tick flies.

It has been known for some time that rodents, especially rats, are frequent victims of the plague; but how the disease spread from them to man was not quite clear. Now, however, it has been shown that fleas contain the plague bacillus in their digestive organs, as the result of feeding upon rodents, and then convey the disease to the human subject.

Cholera and typhoid fever are conveyed in food and drink, by the hands, and by flies. These channels of spreading the infection are now well established. The dysentery in army camps might be included here.

Smallpox and other eruptive fevers may, no doubt, be spread in the same way. There are undoubted instances of scarlet fever having been spread in milk, and it is fully accepted that flies may carry the contagion of smallpox.

The fingers and flies are sometimes guilty of the carrying of sepsis. The streptococci and staphylococci may be transported long distances by the foregoing agencies.

It is also well known that the fingers are largely responsible for the spread of such diseases as trachoma and contagious pustule.

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#### THE CAUSATION OF INSANITY.

In the *Lancet* (British), for June 2nd, there appeared an address by Dr. F. W. Mott on the above subject.

He defines insanity to be that state in which "an individual, owing to a morbid state of the mind, no longer feels, thinks, or acts in accordance with the usages and customs of the society in which he lives."

On the question of the supposed increase of insanity he remarks that the standard of sanity may be steadily rising, that many imbeciles

and feeble-minded are confined, that many afflicted with senile insanity are in asylums, and that pauper lunatics are now sent to the asylums. These factors may account for much of the apparent increase in the numbers in the asylums. Notwithstanding the foregoing, Dr. Mott thinks that modern city life tends to increase the numbers of the insane, especially general paralysis and alcoholic insanity.

The statement is advanced that the more one studies insanity the more it becomes clear that whatever the exciting causes may be, "there is an inborn tendency in their nature." The entire personality must be studied. "Many events conspire or combine after birth to bring out this innate tendency to mental derangement." Certain insane tendencies are peculiarly hereditary, such as the tendency to suicide, The intermarriage between unsuitable persons, and the intermarriages among such classes as the Quakers and the Jews, tend to evolve neuroses of various forms.

Among the exciting causes of insanity special attention is given to syphilis, alcoholism, the toxins of infectious diseases, and the struggle of city life. With regard to effects of city life, he believes that it tends to cause many cases of hysteria and neurasthenia, and in this way the stock is weakened and the numbers of the insane are increased by the inheritance of a lowered vitality of the nervous system.

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#### THE ETIOLOGY OF EXOPHTHALMIC GOITRE.

Professor Kocher, of Berne, is an admitted authority on this disease. At a recent meeting of the Medical Society of London, he gave an address on "The Pathology of the Thyroid Gland." He would not accept the diagnosis of the disease unless there were present some enlargement of the thyroid gland. The heart hurry is also a very constant symptom, but the exophthalmos may not be present for some time, or but little pronounced in the case.

He then discussed the two views as to whether the disease was due to a dysthyrosis or a hyperthyrosis, and supports the latter theory. The histology of the thyroid gland in Graves' disease shows that there is an increase in the secretory cells. There is a constant swelling in neighboring lymphatic glands, which shows over activity in the thyroid body. In the blood there is an increase of the lymphocytes, up to 60 per cent. of the white corpuscles. Then the iodine content of the gland is greatly increased. These features justify the opinion that the disease is due to hyperactivity of the gland.

But there is the evidence obtained from the removal of the gland. By this means the disease can be cured, showing the connection between the thyroid gland and Graves' disease. The extent of cure varies

with the thoroughness with which the gland is reduced in amount by removal, or in activity by the ligature of its arteries. These facts prove that the gland throws some product into the system that causes the disease. But further, the symptoms of the disease can be produced by the administration of the extract of thyroid glands, or iodothylin. In myxœdema great benefit results from the exhibition of thyroidin or iodothylin; and in this disease the gland is under active.

Dr. Kocher concludes by saying: "So we may state positively that over-activity of the thyroid gland would, for one reason or another, be quite sufficient to explain the appearance of the symptoms of Graves' disease and their disappearance after operation."

A strong plea is put in for the operative treatment of exophthalmic goitre; but the operation should not be put off too long, until it becomes a source of danger to the patient. In 1,000 operations for ordinary goitre, there were only three deaths; whereas in 175 operations for Basedow's disease, there were nine deaths. These deaths were mainly due to the fact that the operation had been postponed to too late a date.

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#### OPSONINS AND PHAGOCYTOSIS.

The importance of phagocytosis has been much studied and discussed, nor has the last word been said upon the subject. Of comparatively recent date some new views have been advanced that promise much light upon the influence of blood upon bacterial infection of the system.

The term "opsonins" is obtained from the Latin *opsono*, which means "I prepare food for." The presence of these opsonins in the blood affect the bacteria in such manner as to make them more amenable to the leucocytes and more easily devoured by them. It is a matter of observation that leucocytes freed from serum have but little power to consume bacteria. Bacteria that have been treated by opsonins and then thoroughly washed are taken up readily by washed leucocytes. This proves that these opsonins in same way render the bacteria food for the leucocytes. The reverse is not true that leucocytes treated with opsonic serum can take up bacteria which have not come under the influence of these opsonins.

Human serum contains opsonin against many bacteria, especially of low virulence. But a matter of the utmost importance is that the opsonins of one animal will render the bacteria easy prey to the leucocytes of another animal. If the bacteria are of high virulency the opsonins have not the requisite power to sensitize them to the leucocytes

and, therefore, phagocytosis may not occur, or at least to any appreciable degree. The leucocytes of a rabbit can take up the non-virulent form of the streptococcus, but not that rendered virulent. When, however, the rabbit has been immunized the leucocytes possess marked phagocytic powers against the most virulent type of the streptococcus. This result is now known to be due to a body in the serum that acts upon the bacteria, enabling the leucocytes to consume them. Numerous tests have been made to show that the opsonins do not stimulate the leucocytes, but sensitize the germs.

In the case of relapsing fever, a series of very fine experiments have been made. If the spirilla of the disease be acted upon by the serum of a convalescent patient they are readily consumed by the leucocytes of a person who has not had the disease. Here is found proof of the influence of some quality in the serum of the convalescent upon the organism of the disease.

Opsonins appear to differ from other antibodies. Serum may be opsonic and not lytic; and, on the other hand, it may contain opsonic and not agglutinating qualities.

It would be impossible to pursue the subject further at present. These investigations are bringing to light some of the interesting laws of infection. The discovery of these opsonins may be the means of throwing much interest upon the subject of sera and the study of their action in the treatment of disease. We shall await with much interest the further developments of this knowledge.

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## PERSONAL AND NEWS ITEMS.

Dr. C. A. E. Harriss, of Ottawa, has sailed on the Tunisian for England.

Dr. Wilson, Vancouver, B.C., was recently visiting his sister, Mrs. T. H. Warren, Nottingham street, Guelph.

Dr. J. L. Turnbull, who sold his practice in Goderich, intending to move west, changed his mind, and has located in Listowel.

Dr. Doran, of Port Arthur, is convalescent after a mild attack of typhoid fever and is out again.

Dr. and Mrs. G. W. Fletcher have moved from Wilkesport to Blenheim, and are occupying the house on Elizabeth street recently vacated by W. R. Fellows, Jr.

Commissioner Coombs, commander-in-chief of the Salvation Army in Canada, has returned from Winnipeg, where he opened the new Grace Hospital, the largest and best in the Salvation Army.

Dr. D. A. Kearns, the old Ottawa College quarter-back, surgeon on board the Dominion Line S.S. Kensington, was in Ottawa visiting his mother, 157 Wilbrod street. The doctor sailed again for Liverpool.

Dr. Phillips, of Brantford, has left for Liverpool. The doctor expects to return towards the end of August, after visiting the large hospitals in England and on the continent.

Dr. H. C. and Mrs. McLean and family, of Parry Sound, have left for their new home in Guelph, where the doctor is taking up a practice. Dr. Biehn moved into his office the same day Dr. McLean moved out.

Dr. Garner is spending some time in Cleveland, Ohio, taking a special course in surgery, etc., in the hospitals there. On his return he will open his office in Welland.

Dr. S. J. Boyd, an old Listowel boy, has spent a year in the London hospitals, and obtained the diplomas of M.R.C.S. and L.R.C.P., London, Eng.

Dr. Wm. Oldright, of Toronto, Canada, while in Italy attending the medical congress, was robbed at Padua of his purse, containing personal papers and a letter of credit for \$1,500.

Dr. W. C. Doyle, of Essex, who has been spending six weeks at the Johns Hopkins Hospital, Baltimore, has returned home and resumed practice.

Dr. Peter Macdonald, of Wingham, formerly Deputy Speaker of the House of Commons, with his wife, have sailed for Liverpool, where they will be the guests of their daughter, Mrs. Horsey, widow of the late Dr. Horsey.

The marriage of Dr. H. M. McCordic, of Forest, and Serena, youngest daughter of the late Mrs. Martha Cowan, of Sarnia, was solemnized on Saturday, May 19, at St. James' Cathedral, Toronto, by Rev. Canon Welch.

Dr. L. De Lotbiniere Harwood has been appointed general superintendent of the Notre Dame Hospital, Montreal. As this appointment carries with it the chairmanship of the medical board, the new superintendent is now in full control.

On Wednesday, June 6th, 1906, by the Rev. R. J. Treleavan, of Hamilton, at 76 Close avenue, Toronto, Marcella Ruth McKim, a graduate of Toronto Western Hospital, and daughter of the late Sheriff McKim, of Guelph, was married to Dr. Stanley Millar, of Battleford, Sask.

The corporation of McGill University has approved of a resolution submitted by the medical faculty advising the extension of the present

course to one of five years. A committee now has the matter in hand, and it is likely the change will go into effect in the session of 1907-08.

The Cobalt Hospital is another welcome building which is about to open its doors. This is a fine, two and a half story building, erected by Dr. Adams for hospital purposes. It has room for twenty beds, and its equipment and furnishings are right up to date.

Dr. H. N. McCordic, of Forest, and bride, nee Cowan, have arrived home and were accorded a hearty welcome. They are now nicely settled in their fine home on Main street. Mrs. McCordic's return to Forest is very pleasing to her many friends in town.

Upton Sinclair, the author, has made some startling charges against the so-called Beef Trust. He declares that they have made \$10,000,000 from "potted chicken" made of unfit veal; twice as much from "canned roast beef," made of dyed udders of cows, and "potted ham" made of gullets of beef ground up with potato skins.

As a result of the reorganization of the University of Toronto and Toronto General Hospital by the legislation which goes into effect on Friday next, the Ontario Medical College for Women will go out of existence. Ladies who are entering the medical profession will, therefore, in future receive instruction at the medical school of the provincial university.

The benefactors and subscribers to the Toronto General Hospital met on 14th June, with Mr. H. D. Gamble as chairman, and elected the following gentlemen as trustees:—J. W. Flavelle, W. E. Rundle, to serve to January 31, 1908; C. D. Massey and H. C. Cox, till January 31, 1909; H. H. Fudger, P. C. Larkin and M. J. Haney, till January 31, 1910. The trustees to represent the city and the Provincial Government have yet to be elected.

The B. C. Medical Association will hold its seventh annual meeting in New Westminster on Aug. 1st and 2nd. There are expected to be at the meeting a number of medical men from the State of Washington, and a number of interesting papers have been promised. The meeting will also discuss the subject of patent medicines, with a view to urging legislation thereon; also the question of the fee for life insurance examination.

Dr. Harwood graduated at Laval in 1890, and after two years as house surgeon at the Notre Dame he went to France to specialize in gynecology. He was for a time assistant to Dr. Pozzi and on his return was elected assistant to Dr. Brennan, gynecologist of the Notre Dame Hospital. Upon the death of Dr. Brennan, in 1903, he became the head of his department, and assumed the chair of gynecology in Laval. He

is a member of many prominent medical societies in Canada, France and the United States, and is recognized as one of the leading gynaecologists of Montreal.

At a meeting of the section on ophthalmology of the American Medical Association, Dr. E. E. Holt, of Portland, Me., read a paper on "Physical Economics," showing a man's value in money. In his table Dr. Holt showed that at 10 years, on a  $3\frac{1}{2}$  per cent. discount basis, a boy is worth \$2,601.62; at 15, \$4,263.66; at 25, \$5,438.03. From that time on his value decreases, until at 70 he is worth only \$17.13, and at 80 he is a drawback on the community to the extent of \$827.34. A professional man at 25 has an economic value of \$25,898.94, and his highest value is at 40, when he is worth \$29,344.88.

The following papers were read at the Montreal Medico-Chirurgical Society: Anatomical specimens; (1) abnormality of the carotid artery, and (2) hourglass stomach, Dr. A. E. Orr; Latent Organic Disease of the Stomach, Dr. C. F. Martin; Lateral Curvature of the Spine, Dr. F. W. Harvey; Nephrectomy with Unusual Calculus, and Epithelioma of the Scrotum, Dr. Hutchinson; Demonstration of the Spintharoscope, with explanation of its use in the determination of light perception, Dr. Stirling; Tubal Pregnancy, Drs. Williams and Smith; The Outdoor Treatment of Tuberculosis, illustrated by lantern slides, Dr. Richer.

There was an informal gathering at the Toronto General Hospital to mark the opening of the new wards for the treatment of nervous diseases. Hon. J. W. Hanna, Provincial Secretary, represented the Ontario Government, and there was also present a large number of medical men and their friends, and Mayor Coatsworth, Mr. J. W. Flavell, Mr. M. Hancy of the Board of Trustees and the superintendent, Dr. J. N. E. Browne. The new wards were inspected, after which refreshments were served on the lawn. Dr. Campbell Meyers will be in charge, with Dr. Burson as his assistant and Miss Moody as head nurse.

Gratitude to the Ontario Government for its munificent endowment of the Provincial University was expressed by the speakers at the annual commencement exercises held in the new convocation hall. About 4,000 distinguished graduates and friends of the university were present. The new hall furnished much better accommodation than the gymnasium, in which the exercises were held in past years, and no one was required to stand. The edifice being still incomplete seats were placed in the auditorium. The structure is built in the Palladian style, which was developed by Palladio, the renowned Italian architect of

the early part of the 18th century, and it will have a handsome appearance.

At the recent convocation of the University of Toronto the honorary degree of LL.D. was conferred upon the following persons:—Wilhelm Ostwald, Professor of Chemistry in the University of Leipzig; Principal Maclaren, D.D., of Knox College; Rev. T. R. O'Meara, principal of Wycliffe College; Rev. Daniel Cushing, superior of St. Michael's College; Hon. J. W. St. John, Speaker of the Legislative Assembly; Dr. Thomas Hodgins, Master-in-Ordinary and local Judge in Admiralty; Rev. Dr. John Potts, Educational Secretary of the Methodist Church; Joseph Wesley Flavelle, Byron Edmund Walker, Doctor of Civil Law; the Rev. Henry John Cody, Master of Arts; the Rev. Donald Bruce MacDonald, Mast. of Arts, and Arthur Hugh Urquhart Colquhoun, Master of Arts of McGill University.

Sir Henry Duncan Littlejohn, who has lately resigned the chair of forensic medicine in the University of Edinburgh, has had a unique record of public service. As a medical expert witness he has appeared in almost every criminal trial that has occurred in Scotland during the last thirty years, and for a long period he has acted as confidential adviser to the Crown. He is close upon 80 years of age (he was born in 1828), but he still goes up the long flight of stairs that run between the old and new towns of Edinburgh two steps at a time, and he is very angry with any tramway conductor who stops a car to allow him to board or alight. Sir Henry was educated at Perth Academy and the University of Edinburgh. He is President of the Royal College of Surgeons and an officer in many other similar organizations. He has written extensively on medicine and public health.

Principal Gordon, in presenting the report of Queen's University, Kingston, to the Presbyterian Assembly, pointed out the striking increase of students in the university. They numbered 1,042, or 85 over last year. The number of theological students fluctuated less than in any other college. The growth of Queen's warranted them in the effort for an additional \$500,000 of endowment. Speaking of the Government grant, he said that on the question of Government aid the position always consistently taken by Queen's was that the Provincial Government should not confine its help to any one institution or centre. The policy pursued in all well-educated countries was against centralization. By a variety of institutions they got a variety of training which was of advantage to the country. Certain sources of revenue were closed to Queen's through its connection with the Church, on which, therefore, rested a responsibility to secure its adequate support. A strong regard was paid in Queen's to the nobler aims of life, and

through it the Church could exercise a mighty influence in moulding the life of the country. The total amount now assured towards the half-million endowment fund, as reported by the special agent, Rev. Robert Laird, is about \$230,000:

In proposing the toast to the success of the University of Toronto, at the banquet, 8th June, the Chancellor, Sir William Meredith, touched briefly on the expansion of that institution. He said that the university had been struggling for many years with the difficulties which must meet every person in need of money. He would say that the work had been done remarkably well. That could be seen from the men who had been sent out, and who had brought distinction to their alma mater and their country. Owing to improved sentiment of the people and the Government, there was this principle recognized, that the Province of Ontario owes it to itself to maintain the University of Toronto and University College as a State institution for education. This had been followed by a practical application. During the session before the last a grant of \$550,000 was made from the public funds for the university and the hospital, which was a great factor in the teaching department. From what was done last session, a fixed income had been provided. It would not be as in the past, when the university authorities waited on the Government and received just what it happened to please that Government to give. In the past there has been some friction. "There should be unity among the colleges, unity among the faculty, unity among the students," said Sir William, who concluded by the statement that the duty devolved on all to show their appreciation of changed conditions by making the university what it should be, a great national institution.

The University of Toronto Alumni Association has elected the following officers for the year 1906-7:—Honorary President, James Loudon, M.A., LL.D.; President, R. A. Reeve, B.A., M.D., LL.D.; Vice-Presidents, I. H. Cameron, M.B., F.R.C.S., Toronto; J. M. Clark, M.A., LL.B., Toronto; James Mills, M.A., LL.D., Guelph; Hon. Chief Justice Hunter, B.A., Victoria, B.C.; F. Barlow Cumberland, M.A., Port Hope, Ont.; Hon. J. D. Cameron, B.A., Winnipeg, Man.; his Honor Judge Chisholm, LL.B., Berlin, Ont.; Secretary-Treasurer, J. C. MacLennan, M.A., Ph.D.; Executive Council, Miss C. M. Woodsworth, B.A., Miss Julia S. Hillock, B.A., Miss M. Cartwright, W. J. Alexander, Ph.D., E. N. Armour, B.A., Rev. R. P. Bowles, M.A., B.D., F. C. Colbeck, B.A., Rev. Eber Crummy, B.A., B.Sc., Rev. H. J. Cody, M.A., A. P. Coleman, M.A., R. A. Gray, B.A., H. F. Gooderham, B.A., D. B. Gillies, B.A., Thomas Langton, M.A., LL.B., H. T. Machell, M.D., T. J. Mulvey, B.A., S. J. McLean, B.A., LL.B., Gordon

Osler, W. Pakenham, B.A., D. Paed., T. A. Russell, B.A., James Ross, B.A., Charles Sheard, M.D., C.M., M.R.C.S., Harold Clark, D.D.S., F. N. G. Starr, M.D., J. F. M. Stewart, B.A., G. Oswald Smith, M.A., F. H. Torrington, Mus. Doc., S. C. Wood, B.A., LL.B., S. M. Wickett, Ph.D., W. T. White, B.A. An amendment to the constitution, moved by Prof. A. B. Macallum, was adopted, providing for the filling by the Executive Committee of any vacancy occurring in it between annual meetings by resignation or death. A vote of thanks was extended to the Government and the Legislature of Ontario for the liberal financial provision made during the last session for the immediate necessities and future expansion of the university. The Executive Committee's report noted considerable development in the Alumni Association's scope and influence. The Treasurer's report showed a surplus to the credit of the Alumni Association of \$128.66, making a total surplus in the account of \$582.94. The convocation hall fund showed subscriptions paid to May 31st, \$40,442.41, and interest \$1,537.32. There was paid over to the university \$35,000, and balance in Dominion Bank, \$5,722.36. Subscriptions up to the present time amount to \$52,233.22. The annual university dinner was held in the university gymnasium at 7.30 on 7th June.

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#### RESOLUTIONS:

On board Steamer "Brockville,"  
*en route* to Montreal, June 3rd, 1906.

Whereas the members of the American Medical Association, *en route* to Boston *via* the Grand Trunk Railway System, including the Missouri Valley Special, Iowa and Chicago Delegation, were cordially entertained during their visit to Toronto, on June 2nd, by the Canadian and Ontario Medical Associations, Ontario Medical Library Association, Toronto Clinical, Medical and Pathological Societies;

Whereas, we, as a body, including our wives and families, enjoyed to the fullest extent our entertainment at luncheon at the Toronto Medical Library, and

Whereas, we were accorded the hospitality of the Queen City, its provincial and municipal institutions, and were furnished auto transportation over their beautiful city, therefore,

Be it resolved, that we hereby express our thanks for these unexpected courtesies, for which our appreciation is only measured by the bountiful hospitality of their beautiful city.

Resolved, that a copy of these resolutions be transmitted to Dr. G. A. Bingham, President Ontario Medical Association, Dr. R. A. Reeve, Dean Medical Faculty, University of Toronto, to the officers and members of the Ontario Medical Library Association, to the Reception Committee, to the daily press of Toronto, and the Editor of the journal of the American Medical Association, for publication.

Signed :

A. E. PRINCE,  
J. A. DOWNS,  
T. J. SCHWEER,  
EDWIN B. SHAW,

H. LISTON MONTGOMBERY,  
E. E. DORR,  
CHAS. WOOD FASSETT,  
Representing the Chicago, Iowa  
and Mo. Valley Delegation.  
Committee.

## OBITUARY.

### JOSEPH HENRY WIDDIFIELD, M.D.

Dr. Joseph Henry Widdifield, Sheriff of the County of York since 1888, died suddenly at his residence, "Glenbyrne," 178 St. George street, Toronto, Sunday morning, 3rd June. A stroke of apoplexy, the second the deceased had suffered, was the cause of death. The news of his death spread rapidly throughout the city and the county, and was at first received with incredulity by a host of friends and acquaintances. The Sheriff was at his office all last week up to Friday. On Saturday he did not go down town, but was around the house, evidently in excellent health and quite cheerful, and it seemed impossible to those who had been in conversation with him during the previous few days that the news of his demise could be true.

The late Sheriff Widdifield was widely known throughout Ontario, and particularly in Toronto and York County. His friends and acquaintances were numbered by the hundreds, and all respected and admired him. He had an excellent presence, a fine face, with an attractive smile, and a warm-hearted, sympathetic geniality which held close those who had the pleasure of knowing him. His family is among the very oldest in the County of York, his grandfather, a United Empire Loyalist, having trekked from Pennsylvania and settled on lot 32 of the third concession of Whitchurch in 1799. The farm property mentioned has remained in the family ever since, and Mr. James E. Widdifield now lives on it. Dr. Widdifield was born on the farm on June 12th, 1845. His early education was received at Newmarket High

School and Victoria University. He studied medicine at Victoria Medical College, Toronto, and at St. Thomas' Hospital, London, England, graduating M.D. in 1869. In the following year he graduated in medicine and surgery at the Royal College of Surgeons, London, England, and at the Royal College of Physicians, Edinburgh. Returning to Canada, he practised his profession for a number of years at Newmarket and was also a coroner for York County.

Sheriff Widdifield was always interested in military affairs, and held first-class certificates from the Toronto School of Military Instruction and from the Toronto School of Gunnery. At the time of the Fenian raid he responded to the call to arms, but owing to the brief duration of the trouble, like many other eager and patriotic volunteers, he did not get to the front. The late sheriff was a prominent Free Mason and a Knight Templar, and had occupied many offices in both orders. He was also for many years a member of the Ancient Order of United Workmen, and for some dozen years prior to his appointment as sheriff was Provincial medical examiner for that order. Sheriff Widdifield, who was a widely read man, had travelled extensively in Great Britain and Ireland, and in Europe and the East, including Egypt, Nubia, Palestine, Syria, and Turkey. He was an Anglican in religion, a member of the Toronto Club, and formerly a member of the Toronto Yacht Club. He represented North York in the Ontario Legislature from 1875 to 1888 (when he became Sheriff for York County).

The sheriff was unmarried, and his sister, Miss Jennie Widdifield, was his housekeeper. Mr. William C. Widdifield, barrister, of Newmarket, and Mr. James E. Widdifield, of Whitchurch township, York County, are brothers of the deceased. The only other surviving members of the family are Mrs. Knowles, of Pasadena, California, and Mrs. Playter, of Newmarket.

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#### JAMES PARKER, M.D.

Dr. James Parker, one of the oldest practitioners of Leeds County, died 6th June, 1906, at his home in Westport, aged about 65 years. His demise was not unexpected, for he had been gradually sinking from the effects of anaemia. For more than a quarter of a century he made his home in Westport, and was favorably known throughout the district. He occupied a prominent position among the people of the Township of North Crosby. His widow survives.

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## DANIEL CRAM, M.D.

Dr. Daniel Cram was one of the old graduates of McGill Medical College. He had practised for many years in Ottawa. He died in St. Luke's Hospital in that city in his 66th year.

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## GEORGE D. TURNBULL, M.D.

Dr. Turnbull had lived and practised in Yarmouth, Nova Scotia, for some years. He was in Calgary when taken ill, and died at the comparatively early age of 40.

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## REUBEN CURRY, M.D.

Dr. Curry more than forty years ago carried on a large practise in Rockwood. Some years ago he removed to Toronto, and four years ago to Guelph, where he died of heart trouble. He was about 70 years of age, and leaves a widow and grown-up family.

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## BOOK REVIEWS.

OSBORNE'S INTRODUCTION TO MATERIA MEDICA AND  
PHARMACOLOGY.

An introduction to the study of Materia Medica and Pharmacology, including the Elements of Medical Pharmacy, Prescription Writing, Medical Latin, Toxicology and Methods of Local Treatment. For the use of Students of Medicine and Pharmacy. By Oliver T. Osborne, A.M., M.D., Professor of Materia Medica, Therapeutics and Clinical Medicine in Yale University, ex-President of the American Therapeutic Association, etc. In one 12mo volume of 167 pages. Cloth, \$1.00 net. Lea Brothers Co., Publishers, Philadelphia and New York, 1906.

The object of this little book is to introduce the student to the study of materia medica and therapeutics from the most practical standpoint. It commences with a short section on experimental pharmacology intended as an introduction to the laboratory course. The next section, on the action of the important drugs, is arranged alphabetically to allow the instructor free choice of the drug he will demonstrate and furnishes to the student a quick and convenient reference to the

physiological action of each drug. The section on pharmacy explains the important preparations of the United States Pharmacopœia. The doses are given in both systems and preparations are grouped according to the size of the dose, this perhaps being the best means of helping the student to remember them. The sections on poisoning, weights and measures, Latin abbreviations, prescription writing and dosage are all of great importance to the future practitioner of medicine and are all subjects which in the usual medical course do not receive the attention which they deserve. The latter part of the book, which briefly describes the various methods of locally treating different parts of the body, will be found exceptionally valuable, and belong in a book of this introductory type rather than in a larger work. Every student of medicine, and of pharmacy as well, will find that his studies will be made simpler and easier by the preparatory reading of this little volume, and there is hardly a practising physician in the country who will not benefit by its perusal and who will not get into the habit of referring to it frequently once he has read it. A more valuable and convenient little book to slip under the cushion of a carriage seat or into the pocket of a great coat could not be found.

Dr. Osborne is so well known in the field of practical and scientific therapeutics that the appearance of his name on the title page of any book will ensure it careful reading. That this reading will prove to be most profitable goes without saying.

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#### BOVÉE'S GYNECOLOGY.

The Practice of Gynecology by Eminent Authorities, edited by J. Wesley Bovée, M.D., Professor of Gynecology in George Washington University, Washington, D.C. In one very handsome octavo volume, containing 838 pages, with 382 engravings and 60 full page plates in colors and mono-chrome. Cloth, \$6.00 net; leather, \$7.00 net; half morocco, \$8.00 net. Lea Brothers & Co., Publishers, Philadelphia and New York, 1906.

This is the first of a series of three companion volumes dealing respectively with gynecology, obstetrics and pediatrics, and jointly, covering this whole cognate domain in the light of the world's latest and best knowledge.

The present volume, under the able editorship of Professor Bovée, furnishes a practical treatise on the diseases of the generative organs of women, including the urinary system and rectum.

Its scope is intentionally much broader than the usual treatise or text-book on gynecology.

To secure the advantage of maximum practicality; to present the vast and important subject in a manner which will make it of the greatest interest and value, not only to the gynecologist and surgeon, but

to the large body of general practitioners, has been the earnest endeavor of editor, authors and publishers.

Breadth of view is insured by the assignment of the various chapters to seven authorities of recognized eminence, who have written in the light of ample experience. Each author includes his own observations of diseased conditions, and gives clearly-defined therapeutic measures, especially those which in his own hands have resulted successfully.

This feature gives to each contribution a personal element of obvious value when it is noted that each contributor is a clinician and teacher of long experience. The volume is very richly illustrated with engravings and colored plates, most of which are original and taken from the authors' cases.

It is manifestly to the advantage of every physician to have this entire series of three volumes at hand, but the publishers, having in mind the convenience of those who are interested in one or two individual departments, have issued each volume as a separate book, complete in itself, and either volume of the series may be purchased separately.

The contributors to this volume are J. Wesley Bovée, J. Riddle Goffe, G. Brown Miller, George H. Noble, Benjamin R. Schenck, Thomas J. Watkins and X. O. Wirder.

The volume is a splendid evidence of the care of the publishers in every respect.

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### NEW SERUM THERAPY.

By D. Montgomerie Paton, L.R.C.S. and L.R.C.P., Ed., London. Baillière, Tindall and Co., 8 Henrietta street, Covent Gardens, 1906; Toronto: J. A. Carveth. Price, \$1.50.

At the present, when so much is being written upon the serum treatment of disease, any addition to our knowledge upon the subject is welcome. Certainly Dr. Paton has made very extensive researches upon the subject and has advanced some interesting statements in this book. He contends that the oral use of anti-diphtheritic serum is specific for septic infection.

He has made experiments with various plasmata. Sheep plasma is resistant to tubercle, while ox plasma is to influenza. When any animal shows a refractoriness to a certain infection, the plasma of such an animal will confer upon a person a similar refractoriness. This is the key-note to the study of the book.

Many observations go to prove the value of plasmata in all inflammations and infections. The book is well worthy of study.

## A TREATISE ON SURGERY.

In two volumes. By George R. Fowler, M.D., Examiner in Surgery, Board of Medical Examiners of the Regents of the University of the State of New York; Emeritus Professor of Surgery in the New York Polyclinic, etc. Two imperial octavos of 725 pages each, with 888 text illustrations and 4 colored plates, all original. Philadelphia and London: W. B. Saunders Company, 1906; J. A. Carveth & Co., Limited, 434 Yonge St., Toronto. Per set: cloth, \$15.00 net; half morocco, \$17.00 net.

Some time ago we revised the first volume of this excellent treatise on surgery. What we said then can be repeated with regard to the second volume. Dr. Fowler has certainly given to the profession a very valuable work on surgery. This volume deals with the dorsal and lumbar regions, the abdomen and pelvis, the female pelvic organs, the upper and the lower extremities. The arrangement adopted throughout the volume is very convenient. The author possesses the very best judgment as to the attention paid to the various parts of the subject matter, and ever keeps before his mind that his book is a guide to the working surgeon and to those who wish to acquire a practical knowledge of surgery. While every meed of praise is due the gifted author, the publishers are entitled to high compliments for the manner in which they have got out these two volumes. Everything about the books is first-class. We congratulate both author and publishers and bespeak for these volumes a large sale.

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TREATMENT OF PROLAPSE AND RETROVERSION.

The Operative Treatment of Prolapse and Retroversion of the Uterus, by J. Inglis Parsons, M.D., M.R.C.P., M.R.C.S., Physician to the Chelsea Hospital for Women, Late Surgeon Royal Maternity Charity, Fellow of Royal Medical and Chirurgical Society, Obstetrical Society. London, British Gynæcological Society, Hon. Fellow American Electro-Therapeutic Society, etc. London: John Bale, Sons and Davidson, 83-91 Great Titchfield St., Oxford St. W., 1906. Price, 3s. 6d. net.

The author, in this small book, gives a good account of anatomy of the pelvis, the general causes of prolapse and retroversion, its pathology and treatment. The treatment he speaks of as mechanical, medical and surgical. He describes his own pessary, which appears to be a very useful one. The main feature of the book is a method of injecting a fluid into the broad ligaments, which causes a thickening and contraction in them and the uterine ligaments. The injection is made by a special syringe. The fluid is composed of quinine sulph., gr. xii; acid sulph. dil., m xxx; and distilled water, one dram. This makes one injection. Good results are claimed for the treatment.

The book is worthy of careful study. If the contentions of the author should prove correct the treatment is easy and very useful.

## CHICAGO HEALTH REPORT.

Biennial Report of the Department of Health for the City of Chicago for the Years 1904-1905. by C. J. Whalen, M.D., Commissioner of Health.

This report, like all those from Chicago, is full of valuable information and tables. One of the very first things that strikes the eye is that the average age of those who died in 1875 was 16, in 1885 it had increased to 20, in 1895 it was 24, and in 1905 it had risen to 31 years. This is substantial proof of the value of sanitary work. It is extremely interesting to note from the tables given the steady increase in the death rate from pneumonia and heart disease, and the decrease in the rate from typhoid fever, diphtheria and scarlet fever. For every 10,000 the death rates were 24 for the years 1856-65, 24 from 1866-75, 20 from 1876-85, 20 from 1886-95, and 15 from 1895-05. Here, again, is abundant proof of the good work done for Chicago by its Health Department. Some of our Canadian cities might profit by Chicago's example.

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#### HUMAN SEXUALITY.

A Medico-Literary Treatise on the Laws, Anomalies, and Relations of Sex, with special reference to Contrary Sexual Desire, by J. Richardson Parke, Sc.B., Ph.G., M.D., Late Acting Assistant Surgeon, U.S. Army. Professional Publishing Company, Philadelphia, 1906.

Here we have an octavo volume of 475 pages, covering the whole subject of the sexual relationships, normal and abnormal. In the preface he states: "The sex problem appeals to all. To the physician, professionally; to the moralist, ethically; to the anthropologist, sociologically, and, to no small part of the human race, purely sensually." With regard to the widespread movement by which women are asserting themselves in a public way and going into all forms of occupations, the author thinks is "precluding in great measure even a masculine thought of matrimony, producing among women themselves a growing indifference to the sexual bond, and engendering psychological results in society too apt to escape very general observation." With any work of this kind there is sure to be a good deal that some will dissent from; but the main object of all books should be to educate and raise public opinion, and, in doing so, unpopular views may have to be advanced. The sexual instinct is a powerful motive factor in life for good or evil according as it is guided wisely or the reverse. One man will commit the most heinous of crimes to gratify his passions, while another man will sacrifice his life in defence of the chastity of a woman whom he may never have seen. The thought that his woman friend is ever watching him, has spurred on many a man to great deeds in every

walk of life. The book before us covers almost every aspect of the subject of the sexual relation in its moral, social, matrimonial, procreative, perverted, artificial, and criminal forms. There is much to be learned from a careful study of this book, and we congratulate the author on the result of his labor, which must have been very great indeed, for he has covered a wide field. This brief notice would be very imperfect if due praise was not accorded to the publishers for the excellent form in which they have given the book to their readers.

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#### REGINALD HARRISON ON URINARY SURGERY.

The Urethrotomies and Kidney Capsulotomy in Diseases and Injuries of the Urinary Organs, by Reginald Harrison, F.R.C.S., Past Vice-President and Hunterian Professor of Pathology and Surgery, Royal College of Surgeons; Member of the Court and First Mitchell Banks' Memorial Lecturer, University of Liverpool, Consulting Surgeon St. Peter's Hospital, London; Honorary Fellow of the American Surgical Association, Knight of Grace of the Order of St. John of Jerusalem in England; First Class of the Imperial Ottoman Order of the Medjidieh. London: John Bale, Sons and Danielson, 83-91 Great Titchfield street, Oxford street W. Price 2/6d., 1906.

This is a small book, but an excellent one. It is got up in a very attractive manner, and the best of paper is used. The illustrations are good and supplement the text effectively. The book contains ten clinical lectures delivered at the London Medical Graduates' College and Polyclinic. Internal and external urethrotomy, the management of urinary fistulæ, false passages, ruptured urethra, stone in the bladder and prostate, capulotomy of the kidney are fully discussed. Mr. Reginald Harrison is an experienced surgeon, and his views upon the foregoing subjects are welcome just now, when these topics are live ones before the profession. Many of the statements contained in this book have been published by the author in articles to the medical journals. This only, however, enhances the value of having them all collected together in book form, with much new matter. We can recommend this work very highly, as a most valuable addition to those upon urinary surgery.

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#### NEW JERSEY BOARD OF HEALTH.

Twenty-ninth Annual Report of the Board of Health of the State of New Jersey, 1905, and Annual Report of the Bureau of Vital Statistics. Trenton, N.J.: The John L. Murphy Publishing Co., printers.

This report is full of much valuable information. It is extremely interesting to note the steady drop in the death rate from many of the preventable diseases. Take the two decades just passed, and we note that consumption has fallen from 24.2 to 18.1, diarrhoeal diseases of

children from 23.5 to 15.4, diphtheria from 11.2 to 4.8, typhoid fever from 4.3 to 2.4, and scarlet fever from 3.1 to 1.2 per 10,000. Of all the deaths the following disease accounted for a large percentage: consumption, 10.4; pneumonia, 9.88; diarrhœal diseases of children, 6.86; diphtheria, 2.60; scarlet fever, 1.18; and typhoid fever, 1.09. Diseases of the heart and vascular system have steadily increased during the past 25 years, until now they take third place in the mortality tables.

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### PRACTICAL BACTERIOLOGY.

A Laboratory Guide in Practical Bacteriology, with an Outline for the Clinical Examinations of the Urine, Blood and Gastric Contents, by W. T. Connell, M.D., M.R.C.S., Eng., Professor Pathology and Bacteriology, Queen's University, Pathologist to the General Hospital, Kingston. Second edition, revised. Kingston, Ontario: R. Uglow & Co., 1906.

This is a very neat and useful guide to the work of the laboratory in the important branch of bacteriology. All the best methods of practical work are given in succinct form. The book is bound with interleaved blank pages for notes. We have looked through the book carefully and have no hesitation in recommending it highly. It is brief, accurate and complete.

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### MISCELLANEOUS.

#### MEDICAL EXAMINATIONS, TORONTO AND TRINITY UNIVERSITIES.

##### FIRST YEAR.

The following have completed the examination of the first year in the faculty of medicine:

Honors—1, W. J. M. Marcy; 2, C. A. Harvie and R. McTavish; 4, J. S. Boyd; 5, G. N. L. Earle; 6, R. K. Thomas; 7, C. D. Hauch; 8, J. F. O'Connor; 9, F. Adams.

Pass—C. F. Atkinson, G. Balfie, K. Boott, R. W. Bruels, R. J. R. Bright, A. G. Brown, J. R. Christian, R. Davis, W. Davis, T. A. J. Duff, W. M. Ecclestone, H. H. Eedy, H. B. Ewens, H. H. Eyres, E. S. Fish, J. L. Graham, W. E. Guest, C. G. Gunn, M. J. Haffey, B. Hannah, F. Hinds, B. H. Hopkins, J. A. Johnston, G. C. Kidd, W. G. Leggett, R. W. Lynn, D. McCaffgrey, M. McDonald, R. J. McEwen, J. D. McPhee, E. A. Morgan, H. H. Moshier, A. E. Naylor, W. C. Pedlar, G. R. Philp, F. N. Robertson, J. F. Shaw, J. A. Simpson, W. D. Slater, Miss E. O. Smith, F. D. Smith, R. A. Smith, A. E. Sutton, J. T. Thomas, V. L. Turrill, G. J. Whetham.

The following are matriculant students taking the examination of the first year :

Honors—W. F. M. Adams, R. Barrett, E. J. Eacrett.

Pass—W. D. Brace, J. M. Carnduff, J. W. Corrigan, H. G. Emerson, C. A. Hughes, R. D. Lane, C. J. McBride, Miss J. McDougall, S. F. McEwen, K. A. McLaren, K. M. Murray, K. J. O'Neill, A. G. Robertson, Miss J. Smillie, R. E. Stephens, J. G. R. Stone, W. M. Thomas, J. S. Wray.

The following have passed supplementary examinations :

Biology—R. E. Humphries, Miss E. A. Ewen, J. N. Robert.

Physics—N. McLeod, J. H. H. Jackson.

Chemistry—Miss E. K. Russell, R. M. Turner.

The following are required to pass supplemental examinations before completing the first examinations :

Chemistry—C. A. Waldron.

Physics (practical)—N. A. Bernard, J. McInnis.

Biology (theoretical)—S. P. Baldwin, H. Bell, T. A. Brandon, H. H. Bruce, D. A. Campbell, W. J. Defries, G. J. Forster, J. R. Gibson, G. A. J. Glionna, E. K. Henderson, W. Jamieson, G. W. Kells, E. A. McCort, W. T. McLean, J. W. Pilcher, N. W. Rogers, T. Sawdon, N. Telford, N. L. Terwilligar.

Physics (theoretical)—R. T. Bayley, Miss R. J. Christie, E. C. Harris, A. J. Henderson, J. E. Mackin, Miss M. E. Malcolm, Miss B. T. Pullan, Miss G. L. J. Sutherland.

Chemistry (theoretical)—H. M. Clarke, D. V. Currey, V. S. Kaufman, J. N. Richards, W. W. Tyerman.

Physiology—A. S. McCormick, R. A. Williams, S. H. Siung.

Anatomy—A. S. McCormick.

The following are required to pass supplemental examinations before completing the second examination :

Anatomy—F. L. Barnett, L. L. Cairns, A. Collins, H. T. D'Arc, W. E. C. Day, C. F. Dorsey, E. A. E. Howard, T. O. Hutton, A. B. James, T. M. Rakaza, N. V. Leslie, W. S. Millyard, J. E. Montgomery, Miss M. Morden, J. T. Phair, Miss E. K. Russell, R. H. Sheard, S. C. Mahood, W. H. Ochs, F. Shepley, H. A. Taylor, E. J. Trow, F. R. Chapman.

Physiology—W. C. Collins, T. A. Ellis, D. J. Galbraith, C. D. Hewett, W. W. Lailey, Miss R. Leacock, N. V. Leslie, A. W. McLennan, Miss S. G. McVean, J. E. Montgomery, Miss M. Morden, R. P. Mulholland, A. M. Murray, A. G. Naismith, Miss E. K. Russell, S. C. Mahood, F. D. Wilson.

Embryology—A. Collins, W. C. Collins, H. T. D'Arc, W. E. C. Day, C. F. Dorsey, C. S. Gideon, J. E. Montgomery, R. P. Mulholland, J. T. Phair, R. H. Sheard, E. J. Trow, F. R. Chapman.

Histology—D. J. Galbraith, W. E. Ogden, J. T. Phair, E. Shepley, W. S. Verral.

Chemistry—L. L. Cairns, W. C. Collins, J. M. Fowler, V. S. Kaufman, G. E. Lipsitt, A. S. McCormick, W. E. Ogden, W. F. Plewes, Miss E. K. Russell, E. Shepley, R. H. Sheard, J. Thomson, E. J. Trow, W. S. Verrall, F. R. Chapman.

Materia Medica—W. M. Fielding, A. G. Fleming, C. S. Gideon, N. V. Leslie, Miss S. G. McVean, W. E. Ogden, W. F. Plewes, C. Whiteway, R. A. Williams.

#### SECOND YEAR.

Anatomy, physiology, embryology, and histology, chemistry and materia medica.

Honors—1, J. G. Harkness; 2, W. G. McCulloch; 3, C. R. McKenzie; 4, C. E. Rowland; 5, H. K. Bates and W. B. Gibb; 7, W. Pratt; 8, R. J. Hamilton.

Pass—G. W. Beaver, E. Boyd, J. G. Bricker, J. B. Brown, P. G. Brown, R. E. Buswell, D. F. Carswell, M. J. Casserly, M. Crysler, D. W. Clarke, \*E. C. Cole, W. G. G. Coulter, O. S. Craise, H. Crasweller, R. E. Davidson, R. O. Davidson, C. Elmore, H. L. Emmett, H. W. Felhans, W. D. Ferguson, \*E. Fidler, F. J. Fox, J. J. Garrity, \*W. J. Glanfield, C. W. Graham, T. M. Green, L. A. B. Grier, H. E. Hamill, C. G. Harmer, W. A. Harvie, J. P. Harrison, M. S. Hawke, A. K. Haywood, \*E. M. Henderson, C. E. Hill, \*C. M. Hincks, R. B. Horton, \*A. G. Huntsman, G. Hyland, D. Jamieson, T. J. Johnston, B. E. Kelly, J. E. L. Keyes, A. L. Kinsey, W. Krupp, C. S. Large, L. G. McCabe, W. D. McIlmoyle, C. R. McKay, A. J. M. McKinnon, \*W. F. McPhedran, J. F. S. Marshall, W. Mabee, H. L. Minthorn, J. A. Monkman, H. H. Moore, S. F. Moore, O. A. Pogue, G. E. Richards, R. S. Richardson, G. Rogers, W. C. Ross, J. A. Routledge, W. R. Scott, J. M. Smith, F. E. Spencer, N. E. H. Sproule, N. B. Taylor, W. E. Tindale, H. F. Tyerman, R. R. Walker, A. H. Wallace, F. W. Wallace, G. H. Wallace, R. E. A. Weston, E. C. Wilford, G. W. Williams, Miss F. E. Windsor.

The following are matriculant students taking the second examination :

Honors—A. H. Millar, C. W. Prowd, A. W. Robertson.

Pass—J. A. Cottam, A. Ferguson, R. L. Hurst, J. L. McPherson, W. H. Ross, W. G. Shepherd.

The following have passed supplemental examinations :

Materia Medica—W. Broome, E. E. Cleaver, R. W. Faulds, Miss L. S. M. Hamilton, J. H. H. Jackson, G. E. Lipsitt, C. S. McVicar, J. D. Milne, A. G. Naismith, O. J. Newell, W. H. Ochs, E. H. Young.

\*Graduates in arts in the department of natural science, division I, biology.

## THIRD YEAR.

The following have passed the examination of the third year in the faculty of medicine of the University of Toronto :

W. C. Acheson, R. T. Adam, J. S. Anderson, W. Baillie, G. A. Bates, H. W. Bell, F. R. Bennetto, E. Blanchard, G. F. Boyer, W. A. Broddy, W. Broome, W. H. Brydon, G. S. Buck, J. Burns, Miss M. C. Calder, A. D. Campbell, O. A. Cannon, J. Christie, E. C. Cole, G. R. Crann, A. R. Dafeo, J. A. Evans, R. W. Faulds, E. Fidler, A. G. Fleming, E. D. Gideon, H. Gillies, L. B. Graham, M. Graham, G. C. Gray, C. Harmer, C. C. Hartman, D. A. Henderson, R. C. Hatcher, E. M. Henderson, J. W. Hunt, A. G. Huntsman, F. H. Hurlburt, H. J. James, C. Johnston, W. J. Johnston, H. B. Johnstone, H. W. Johnston, A. F. Kay, R. Y. Kenny, P. J. Kirby, S. G. Knight, A. E. Kyles, S. S. Leigh, A. D. McArthur, W. A. McClelland, H. M. McFadden, J. T. McKay, D. W. MacKenzie, K. N. MacKenzie, J. McLachlan, A. A. McLean, J. A. Macleod, W. F. McPhedran, A. W. McPherson, G. S. McVicar, Miss M. L. Menten, J. D. Milne, H. A. E. Morgan, T. Morrison, F. R. Miller, O. J. Newell, M. A. Nickle, T. H. Norman, T. S. Orr, E. O. Platt, J. A. Prentice, P. Reid, E. H. Relyea, W. L. Ritchie, J. O. Robb, W. C. Ryckman, A. B. Schinbein, W. C. Shier, J. L. Simpson, J. H. Speers, Miss P. J. Sproule, R. Stewart, S. Stinson, W. A. Taylor, C. P. Thompson, T. L. Towers, P. L. Tye, W. C. Walsh, G. H. Whitmore, H. A. Williams, H. G. Wilson, C. E. Wilson, E. H. Young.

Trinity—H. A. Abraham, J. S. Bingham, E. E. Bryans, B. S. Carswell, A. Crux, O. A. McNichol, A. Mitchell, W. S. Sheck, R. H. Stobie, S. T. White.

The following are required to pass supplemental examinations before completing the examination of the third year in the faculty of medicine :

Medicine—D. Allison, H. B. Andrew, E. V. Graham, J. F. Hazlewood, T. O. Hutton, C. V. Jamieson, M. H. Lackner, G. E. Lipsitt, W. G. M. McCormack, R. H. McCutcheon, G. A. McPherson, F. C. Middleton, F. S. Minns, N. A. Munro, W. H. Ochs, E. F. Richardson, G. W. Ross, H. R. Ross, F. W. Routley, S. H. Siung, W. J. D. Sproule, J. J. Thompson, D. W. Williams, J. A. Whillans, R. A. Williams, H. B. Woods.

Trinity—J. A. Browning.

Clinical Medicine—D. Allison, M. H. Lackner, W. B. Large.

Surgery—C. V. Jamieson, T. M. Kakaza, O. K. Lang, C. N. Mooney, N. K. Wilson.

Trinity—D. L. Luckhoo.

Clinical Surgery—W. H. Ochs, H. Walker.

Pathology—H. B. Andrews, T. H. Callahan, B. S. Elliott, T. L. Harrison, J. F. Hazlewood, C. V. Jamieson, G. E. Lipsitt, A. W. Mc-

Clennan, W. G. M. McCormack, N. MacLeod, J. M. McRuer, F. G. Middleton, W. H. Ochs, D. E. Robertson, F. W. Routley, J. J. Thompson, H. B. Woods.

Topographical Anatomy—B. S. Elliott, Miss L. S. M. Hamilton, J. F. Hazlewood, W. G. M. McCormack, F. S. Minns, G. L. Sparks.

Obstetrics—D. Allison, C. M. Hincks.

Therapeutics—T. L. Harrison, C. V. Jamieson.

Jurisprudence and Toxicology—H. S. Burns, M. H. Lackner, G. A. McPherson, H. R. Ross, N. K. Wilson, H. B. Woods.

Miss M. B. Beattie passed in pathology of the third year.

R. E. Humphries passed in therapeutics of the third year.

C. C. Kirkpatrick passed in topographical anatomy of the third year.

O. K. Lang passed in medicine and jurisprudence.

G. C. MacIntyre passed in clinical medicine of the third year.

R. W. MacIntyre passed in obstetrics of the third year.

N. A. Munro passed in surgery.

J. H. Storry passed in clinical medicine of the third year.

W. J. D. Sproule passed in pathology and jurisprudence.

#### FOURTH YEAR.

The following have passed the examination of the fourth year in the faculty of medicine of the University of Toronto: D. C. Balfour, Miss M. B. Beattie, D. Black, F. B. Bowman, W. E. Browne, J. C. Calhoun, A. A. Campbell, Miss B. Campbell, K. Campbell, V. E. Cartwright, C. G. Chapin, R. O. Coghlan, G. Cooper, J. W. Counter, J. G. Crookshank, F. B. Dawson, E. C. Dickson, R. H. Dillane, J. Duncan, R. G. Edwards, G. H. Gardiner, E. D. Gillis, C. S. Hawkins, A. Henderson, M. R. Graham, M. S. Henderson, J. H. Holbrook, R. L. Hutton, J. H. H. Jackson, E. T. Jessop, R. A. Jones, D. M. Kilgour, C. G. Kirkpatrick, H. J. R. Lindsay, J. D. Loudon, G. C. MacIntyre, W. A. McClure, D. McKenzie, M. A. MacKinnon, H. MacLean, R. J. MacMillan, H. M. McNeil, S. J. N. Magwood, L. Main, F. W. Manning, J. C. Masson, F. H. Mayhood, A. S. Moorhead, F. J. Munn, Miss C. B. Murdoch, A. Pain, W. C. Pratt, A. B. Rankin, W. H. Reid, W. T. Rich, A. T. Ripley, J. N. Robert, R. H. Rolph, R. H. Ruby, R. N. Shaw, W. J. Sheridan, J. D. Russell, W. B. Sproule, H. A. Stewart, J. H. Storry, A. A. Thibaudeau, F. B. Thornton, C. A. M. Thrush, T. C. Weldon, F. Woodhall.

The following are required to pass supplemental examinations before completing the examination of the second year in the faculty of medicine:

Medicine—J. M. Holmes, V. S. Kaufman, H. T. Royce, W. J. D. Sproule.

Surgery—E. A. E. Howard, R. M. Johnstone, V. S. Kaufman, R. W. MacIntyre.

Clinical Surgery—H. T. Royce, H. W. S. Kemp.

Pathology—E. E. Cleaver, H. T. Royce, W. J. D. Sproule, A. W. McClelland.

Obstetrics—E. E. Cleaver, J. M. Holmes, E. A. H. Howard, V. S. Kaufman, R. W. MacIntyre, A. C. Phillips.

Gynaecology—J. K. Blair, E. A. E. Howard, A. C. Phillips.

Mental Diseases—E. George, J. M. Holmes, H. Huchnbergard.

Ophthalmology—E. E. Cleaver, J. M. Holmes, E. A. E. Howard, O. K. Lang, N. A. Munro, A. C. Phillips, H. T. Royce, W. J. D. Sproule.

Clinical Medicine—C. R. Cummings, N. D. Frawley, H. W. S. Kemp.

#### PRIMARY M.D., C.M. EXAMINATION.

Class III. : G. H. Worthington, Miss E. Weeks, E. E. Bryans.

Conditioned in chemistry and physics, histology, practical chemistry and practical anatomy : J. H. Browning.

#### FINAL M.D., C.M. EXAMINATION.

Honors : R. W. Mann, gold medal and certificate of honor ; N. J. Heattie, A. D. MacCannell and V. A. Mason (aeq.), silver medal and certificate of honor.

Class I. : W. A. Lewis, W. P. Kaufmann, H. H. Galloway, H. S. Monkman.

Class II. : Miss M. M. Manderson, E. J. Madden and Miss A. Baxter (aeq.), G. W. Huston, E. G. Hodgson, R. Colwill, D. A. Murray, R. R. Smale and Miss Lily Ethel Taylor (aeq.), J. Spence, C. W. Slemin, D. E. Howes, R. E. Wodehouse.

Class III. : W. E. Bryans and Miss Rachel Rogers (aeq.), W. B. Kendall, J. T. Courtice, xG. G. Malcolm, F. A. Douglas, Miss Ak Mae Wong, zA. Mitchell, A. B. McLean, R. Stipe, C. A. Langmaid, J. F. McKee, H. D. Thompson, F. G. Verno.

Conditions : J. H. Browning, in medicine, surgery, midwifery and pathology ; S. A. Overend, in midwifery, pathology, applied anatomy and therapeutics ; H. T. Royce, in midwifery, gynaecology and applied anatomy ; R. H. Stobie, in midwifery, therapeutics and applied anatomy ; Miss Edith Weeks, in surgery, gynaecology, applied anatomy and pathology.

x Has to complete medical examination.

z Has to complete third year examination.

## FACULTY MEDALS AND SCHOLARSHIPS.

Medals: Faculty gold medal, H. M. McNeil, First faculty silver medal, J. H. Holbrook; second faculty silver medal, E. C. Dickson; third faculty silver medal, A. S. Moorhead.

Scholarships: First year, W. F. M. Marcy 1; A. McTavish and C. A. Harvie (equal), 2. Second year, J. G. Harkness 1; W. A. Robertson 2.

Post-graduate scholarship: The Geo. Brown memorial scholarship in medical science, E. C. Dickson.

## M'GILL MEDICAL EXAMINATIONS.

The following are the complete results:—

## FOURTH YEAR.

Holmes gold medal, for highest aggregate in all subjects forming the Medical Curriculum: R. S. MacArthur, Summerside, P.E.I.

Wood gold medal, for best examination in all the Clinical Branches: R. McL. Shaw, B.A., Penobsquis, N.B.

Final prize, for highest aggregate in the Fourth Year Subjects: T. A. Lomer, B.A., Montreal, Que.

McGill Medical Society senior prize: First, F. B. Gurd, B.A., Montreal; second prize, R. J. Monahan, Montreal.

Honors in aggregate of all subjects:—1, MacArthur, R. S.; 2, Lomer, T. A.; 3, Shaw, R. McL.; 4, Hunter, A. W.; 5, Hillman, O. S.; 6, Williams, C. S.; 7, Hannington, D. P.; 8, Mabee, O. R., Phm.B.; 9, Gurd, F. B., B.A.

The following gentlemen, 92 in number, have fulfilled all the requirements to entitle them to the degree of M.D., C.M., from the University. In addition to the primary subjects they have passed a satisfactory examination, both written and oral, in the following subjects:—Principles and practice of surgery, theory and practice of medicine, obstetrics and diseases of women and children, pharmacology and therapeutics, medical jurisprudence, practical and general pathology, bacteriology and hygiene, mental diseases, and also clinical examinations in medicine, surgery, obstetrics, gynaecology and ophthalmology, conducted at the bedside in the hospitals:—

Adams, H. P., D.D.S., Danville, Que.; Allen H. C. B., Cape Tormentine, N.B.; Arnold, O. R., M.A.; Auld, J. W., Covehead, P.E.I.; Auston, J. B., Brighton, Ont.; Bercovitch, A., Montreal, Que.; Blake, E. A., South Stukely, Que.; Bonelli, V., Jr., B.A., Vicksburg,

Miss., U.S.; Brown, G. T., Danville, Que.; Burke, G. H., Ogdensburg, N.Y., U.S.; Callback, A. DesB., Tryon, P.E.I.; Cameron, A. B., Lancaster, Ont.; Chandler, A. B., B.A., Montreal, Que.; Christie, H. H., Martintown, Ont.; Clarke, G. S., Dutton, Ont.; Conroy, B. A., Montreal, Que.; Donnelly, J. H., Buffalo, N.Y., U.S.; Duggan, R. G., Hamilton, Ont.; Ewart, D., Ottawa South, Ont.; Field, B. R., Port Elgin, N.B.; Flegg, R. F., Ottawa, Ont.; Forbes, A. E. G., Little Harbor, N.S.; Fraser, D. R., Montague Bridge, P.E.I.; Fraser, P. B.; Fripp, B. A., Montreal, Que.; Gillies, G. E., Teeswater, Ont.; Gourlay, H. B., B.A., Montreal, Que.; Green, T. B., B.A., Virden, Man.; Groves, Osler M., Carp, Ont.; Gurd, F. B., B.A., Montreal, Que.; Hackett, J. F., B.A., Meriden, Conn., U.S.; Hammond, J. F., Ironside, Que.; Hannington, D. P., Victoria, B.C.; Hardy, A. N., Allandale, N.B.; Hewitt, T. J., Montreal, Que.; Hill, R. C., M.D., Great Falls, Mont.; Hillman, O. S., Hamilton, Ont.; Holden, C. P., St. John, N.B.; Howlett, G. P., Ottawa, Ont.; Hunter, A. W., Durham, Ont.; Hunter, T. V., East Florenceville, N.B.; Johnson, B. F., Midland, N.B.; Joughins, J. L., Moncton, N.B.; Keddy, O. B., B.A., Milton, N.S.; Kelly, A. E., Meaford, Ont.; Kerfoot, H. W., Smith's Falls, Ont.; Layton, J. S., B.A., Oakfield, N.S.; Lomer, T. A., B.A., Montreal, Que.; Lyon, G. R. D., Ottawa, Ont.; MacArthur, R. S., Summerside, P.E.I.; MacCallum, D. G., Montreal, Que.; MacDonald, J. A., Perth, Ont.; MacDonald, F. A., Alma, N.B.; MacLeod, J. M., Quincey, Mass., U.S.; MacNaughton, G. K., B.A., Black River, N.B.; McEwen, E. H., Nanaimo, B.C.; McMillan, J. A., Finch, Ont.; Mabee, O. R., Phm.B., Victoria, Ont.; Mair, W. L., Clinton, Ont.; Malcolm, D. C., St. John, N.B.; Margolese, O., Montreal, Que.; Mercer, T. C., Chilliwack, B.C.; Michaud, J. N., Campbellton, N.B.; Monahan, R. J., Montreal, Que.; Mullin, J. J., Montreal, Que.; Munroe, A. R., Woodstock, Ont.; Munroe F. D., Moose Creek, Ont.; Nathan, D., Montreal, Que.; Parsons, W. H. Harbor Grace, Nfld.; Patterson, W. J., B.A., Moncton, N.B.; Payne, G. A. L., Leonora, British Guiana, W.I.; Peat, G. B., Andover, N.B.; Petersky, Sam'l, Vancouver, B.C.; Ralph, A. J., Phm.B., Montreal, Que.; Reilley, W. H., Montreal, Que.; Rilance, C. D., Montreal, Que.; Risher, F. O., B.A., Dravosburg, Pa., U.S.; Ritchie, C. A., B.A.; Robbins, E. E., Halifax, N.S.; Rothwell, O. E., B.A., Regina, Sask., N.W.T.; Shaw, R. McL., B.A., Penobsquis, N.B.; Sheahan, J. J., Haley's, Ont.; Sims, H. L., Ottawa, Ont.; Swift, T. A., Montreal, Que.; Tilley, A. R., Ottawa, Ont.; Turnbull, J. W., Springhill, Ont.; Walker, J. J., B.A., Ormstown, Que.; Walsh, C. E., Jordan Falls, N.S.; Weldon, R. C., Jr., Halifax, N.S.; White, J. H., Ottawa, Ont.; Williams, C. S., Tyne Valley, P.E.I.; Young, A. MacG., Millville, N.S.

## THIRD YEAR.

The following is the prize list of the third year:—

Third year prizeman, L. H. Trufant, A.B., Auburn, Me., U.S.

Sutherland medallist, G. E. J. Lannin, South Mountain, Ont.

McGill Medical Society junior prizes:—First prize, W. L. Tracy, M.A., Hartland, N.B.; second prize, G. E. J. Lannin, South Mountain, Ont.

Honors in aggregate of all subjects:—1, Trufant, L. H., A.B.; 2, Benvie, R. M.; 3, Whitlaw, W. A.; 4, Landry, A. R.; 5, Peters, H. LeB., B.A.; 6, Baird, W. S., Blanchard, H. B.; 7, Lannin, G. E. J.; 8, Logie, F. G.; 9, Quinn, F. P.; 10, Eggert, C. A.

The following students, 84 in number, have passed in all the subjects of the third year, viz., pathology, pharmacology and therapeutics, hygiene, bacteriology, medical jurisprudence, medical surgery and obstetrics:—

Arthur, J.R.; Baird, W. S.; Benvie, R. M.; Bernstein, D. H.; Blanchard, H. B.; Bray, D. G., B.A.; Brydone-Jack, F. W.; Budyk, J. S.; Burke, G. H.; Cameron, A. B.; Clarke, F. C.; Coborn, Josiah; Covey, H. W.; Dearborn, H. F.; Denovan, B.; Dixon, J. A.; Edwards, W. F.; Eggert, C. A.; Enright, W. E., M.A.; Fairie, J. A.; Farris, H. A.; Forbes, A. E. G.; Gable, W. G.; Garcelon, W. S.; Girvan, R. G.; Gray, W. E.; Hand, W. T.; Hawkins, Z., B.A.; Healy, J. J.; Henderson, S.; Hollbrook, R. E.; Howlett, G. P.; Huycke, A. H.; Joughins, J. L.; Keddy, O. B., B.A.; Kelly, A. E.; Landry, A. R.; Lannin, G. E. J.; Layton, J. S., B.A.; Lindsay, E. A., B.A.; Locke, E. E.; Logie, F. G.; MacArthur, S. O.; MacCallum, D. G.; MacLeod, J. M.; MacLachlan, W. W. G.; MacNab, N. A.; McDougald, W. L.; McLennan, A. L., B.A.; McPhee, T. T.; Mair, W. L.; Morgan, J. D., B.A.; Munroe, A. R.; Norton, F. A.; Peltier, H. G.; Payne, G. A. L.; Penney, L. T. W.; Peters, H. LeB., B.A.; Porter, J. F. S.; Quinn, F. P.; Rabinovitch, M.; Ritchie, C. A., B.A.; Robinson, R. C.; Rublee, O. E., B.A.; Sawyer, C. D., A.B.; Shirreffs, H. S.; Sinclair, G. W.; Stein, S. F.; Stephens, G. F.; Stevenson, A. B.; Sutherland, R. H., B.A.; Taylor, G. O.; Thomson, J. W.; Tilley, A. R.; Trufant, L. H., A.B.; Vesey, E. M.; Waddell, J. R.; Walker, J. J., B.A.; Whitlaw, W. A.; White, J. H.; Wright, R. P.; Young, A. MacG.

## SECOND YEAR.

The prize list of the second year is as follows:—

Second year prizeman, R. B. Dexter, B.A., Wolfville, N.S.

Senior anatomy prize, R. B. Dexter, B.A., Wolfville, N.S.

The Sir William Dawson Scholarship, given by the McGill Graduate Society of New York, D. F. MacDonald, B.A., Port Hood, N.S.

Honors in aggregate of all subjects:—1, Dexter, R. B., B.A.; 2, Tracy, W. L., M.A.; 3, McMillan, W. J. P.; 4, Soley, L. A.; 5, MacDonell, D. F., B.A.

The following gentlemen, 80 in number, have passed in all the subjects of the second year, comprising the following:—Anatomy, practical anatomy, physiology, practical physiology, organic chemistry, applied medical chemistry, histology, pharmacy and pharmacology:—

Arbuckle, J. W.; Arton, O. A.; Barry, J. L.; Bennett, S. J.; Black, J. R.; Rudyk, J. S.; Campbell, D. G., B.A.; Campbell, J. DeL.; Carr, J. B., B.A.; Chipman, R. L., M.A.; Craig, D. A.; Daigneau, P. L.; Davis, D. W.; Davis, S.; Dewar, R. D.; Dearborn, H. F.; Dexter, R. B., M.A.; Donahoe, R. A.; Drury, W. H.; Dunnet, H. W.; Fenton, G. S.; Freedman, A.; Fyfe, A. M.; Gilmour, W. N.; Girvan, R. G.; Goodwin, B. E.; Gray, E. H.; Hawkins, Z., B.A.; Hewitt, T. J.; Holbrook, C. E.; Holbrook, R. E.; Hunter, W. B.; Jenkins, W. M.; Kauffman, J.; Kean, S. G.; Kelley, J. W.; Kirby, W. P. P., B.A.; Lees, F. W.; London, J. F.; Lovering, J. E.; Lynch, J. G. B.; Lyon, G. R. D.; MacDonell, D. F., B.A.; McBride, W. P.; McCordick, A. H.; McDonald, R. H.; McGibbon, J. A.; McGrath, J. P., B.A.; McMillan, W. J. P.; Martin, A. A.; Miller, R. L.; Morgan, J. D., B.A.; Morin, J. H. G., B.A.; Murphy, G. B., B.A.; Nagle, F. W.; Ortenberg, Samuel; Oulton, M. A., M.A.; Penney, L. T. W.; Powell, R. E., B.A.; Purdy, C. E.; Read, G. C., B.A.; Ritchie, C. A., B.A.; Rocheleau, W. C., B.A.; Powell, J. S.; Scott, W. H.; Shankel, F. R.; Shanks, Geo., B.A.; Shewan, D. R.; Simpson, J. S.; Soley, L. A.; Sparks, J. J.; Sutherland, R. H., B.A.; Tanton, E. T.; Thomas, F. H.; Thomson, J. W.; Tracy, W. L., M.A.; Waddell, J. R.; Waugh, O. S.; Wilson, K. M.; Wilson, M. J.; Young, A. MacG.; Yeo, I. J.

#### FIRST YEAR.

First year prizeman, L. C. Conn, St. Catharines, Ont.

Honors in aggregate of all subjects:— Conn, Funk, Kelly, Lanin, Cron.

The following gentlemen, 58 in all, have passed the examinations in all the subjects of the first year, namely:—Anatomy, physics, practical chemistry and inorganic chemistry, physiology, histology, biology, and bacteriology:—Adcock, Allen, Arton, Atkinson, Auld, Bailey, Ballon, Barry, Benoit, Carney, Cody, Conn, Cotton, Cox, Craig, Cron, Curry, Daigneau, D'Avignon, Davis, Drury, Ewing, Frooness, Funk, Gabie, Gardiner, Gillis, Greenleese, Gwynn, Hale, Harry, Irvén, Kearney,

Keay, Kelly, Lafontaine, Lannin, Lindsay, McCracken, McEwan, McIntyre, McKay, Maclean, Murray, Nagle, Ower, Paterson, Reilley, Robinson, Rocheleau, Scott, Simpson, Sparks, Taylor, Turnbull, Wilson, Wolff, Worley.

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QUEEN'S UNIVERSITY MEDICAL GRADUATES.

The following are those who were awarded medals and prizes in the Faculty of Medicine at Queen's University:—University Medal in Medicine, E. Bolton, Philippsville; University Medal in Surgery, L. L. Playfair, Kingston; Chancellor's Scholarship, \$70, for general proficiency throughout course, E. Bolton, Philippsville, and A. E. Baker (Honor) next in order, Blackfalds, Sask.; Best Dissection by Two Students, M. A. McKay, Grenfel, Sask., and R. Hughes, Kingston; For General Proficiency in Practical Anatomy, F. R. Sargent, B.A., Kingston; Faculty Prize, \$25, for Best Examination in Second Year, C. T. C. Nurse, Georgetown, British Guiana; New York Alumni Association Prize, \$50, in Physiology and Histology, H. Dunlop, B.A., Kingston; Prize for Best Examination in Materia Medica, H. B. Longmore, B.A., Camden East; Dean Fowler Scholarship, General Proficiency, Third Year, J. P. Quigley, M.A., Kingston; McCabe Prize in Pathology, Third Year, F. H. Trousdale, Hartington, Ont.; Dr. Barber's Prize for Best Examination in Mental Diseases, \$25, James Reid, Renfrew; Prize in Clinical Microscopy, \$10, R. D. Paul, Selby; Class Prize in Senior Surgery, A. E. Baker, Blackfalds, Alberta; Class Prize in Junior Surgery, A. T. Spankie, Wolfe Island; Recommended for House Surgeons in Kingston Hospital, L. L. Playfair, Kingston; W. R. Patterson, B.A., Kingston; E. Bolton, Philippsville; S. McCallum, M.A., Brewer's Mills; John Johnston, B.A., Combermere, and A. M. Bell, Moscow.

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BRITISH MEDICAL ASSOCIATION.

Patrons: His Majesty King Edward VII., K.G., F.R.C.P., F.R.C.S., and His Royal Highness the Prince of Wales, K.G.; President, George Cooper Franklin, F.R.C.S., Surgeon, Leicester Infirmary, Leicester; President-Elect, Richard Andrews Reeve, B.A., M.D., LL.D., Dean of the Medical Faculty of the University of Toronto; and Past-President, William Collier, M.A., M.D., F.R.C.P., Physician to the Radcliffe Infirmary, Oxford, and Litchfield Lecturer in Medicine, University of Oxford; Chairman of Representative Meeting, Sir Victor Horsley, F.R.C.S., F.R.S., Surgeon, University College Hospital and

Surgeon, National Hospital for Paralysis, etc., London, 25 Cavendish Square W.; Chairman of Council, Henry Wm. Langley Browne, M.D., Ch.B., F.R.C.S.Edin., Consulting Surgeon West Bromwich District Hospital, West Bromwich, and, Treasurer, Hy. Radcliffe Crocker, M.D., B.S., F.R.C.P., Physician Skin Department University College Hospital, London, 121 Harley St. W.; Editor of the *British Medical Journal*, Dawson Williams, M.D., London; General Secretary, Guy Elliston, Esq., 429 Strand, London, W.C.

The addresses and papers will be of exceptional interest and value. The programme is not yet complete, but the following are sure at present:—Sir Victor Horsley, Address in Surgery; Sir James Barr, Address in Medicine; W. S. A. Griffith, Address in Obstetrics; N. Walker, Opens the Section in Skin Diseases; Sir Thomas Barlow, Opens Section in Medicine; Freeland Barbour, Opens Obstetrical Section with Address on Anatomy of Labor; Marcus Gunn, Opens Section in Ophthalmology; Dundas Grant, Opens Section in Laryngology; W. D. Haliburton, Opens Section in Physiology; Sir Hector Cameron, Opens Section in Surgery; and addresses from Dr. Osler, Arthur Robinson, Rose Bradford, Sir Wm. Broadbent, and Sir J. William Moore. There will also be addresses by many of the leading Canadian and American practitioners, including Dr. W. J. Mayo.

The membership fee for the last six months of this year, beginning July 1st, is \$3.05. The yearly fee, dating from Jan. 1st of each year, is \$6.10. This includes the subscription to *British Medical Journal*. The fee should be sent to Dr. J. F. W. Ross, Sherbourne St., Toronto.

The date of meeting is August 20-25.

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### ECTHOL.

Ecthol contains in each fluid drachm twenty-eight grains echinacea and three grains thuja. It is put up in bottles holding twelve ounces and any physician who has not used Ecthol can get a twelve ounce bottle for experimental purposes by sending 25 cents to Battle & Co. to prepay express charges.

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### SPRAYING FOR DISEASES OF THE RESPIRATORY PASSAGES.

Dr. David Walsh, senior physician to the Western Skin Hospital, London, writes:

Glyco-Thymoline was brought to my notice as an excellent lotion for nasal and oral sprays and washes. On due inquiry it was found to fulfil the two conditions usually recognized by medical men in the United Kingdom as vouching for the character, so to speak, of such

a preparation. First, its advertisements are accepted by our three leading Journals, *The Lancet*, *British Medical Journal* and the *Medical Press and Circular*. Secondly, its composition is not a secret, its formula being freely published. Under these circumstances, I determined to try the effect of this preparation in a few suitable cases. As a general antiseptic fluid that does not coagulate albumen, and is non-irritant, deodorant and practically non-poisonous, Glyco-Thymoline has clearly a wide range of usefulness. My own observation, however, has been practically confined to its use in the nose and mouth, with results that have proved satisfactory in every instance, especially in acute coryza, pharyngitis, influenza, and aseptic conditions of the mouth.

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### THE SCHOOL-ROOM AS A FACTOR IN DISEASES OF YOUNG GIRLS.

There is no disguising the fact that our system of imparting knowledge by imposing excessive intellectual labor and stimulating competitive zeal in the school-room is very largely responsible for most of the nervous disorders of the young women of to-day.

That sustained mental exertion is a menace to the health of girls at the age of puberty, there can be no denying. Yet that is precisely the system in vogue at our institutions of learning at the present time.

While it is true that modern architecture has greatly improved the hygienic condition of the study-rooms, it is highly probable that the present rush and hurry methods of instruction are even more injurious to the physical state of our young women than was the faulty system of ventilation, until recently endured.

The worry and excitement attendant upon present-day school life is, undoubtedly, the prime cause of a governing percentage of the neurotic disturbances which are so prevalent among the women of America. In fact, it is quite within the bounds of truth to assert that many of the diseases which present themselves to the gynecologist have for their origin a nervous system rendered bankrupt by strife in our temples of education.

Mental over-strain, when enforced day after day, soon renders the nerve structure incapable of absorbing adequate nourishment from the blood stream. Ultimately, nervous vitality is almost completely exhausted, and depression, gloom, languor and mental impotence ensue.

As the taxation is extended, the condition grows worse until anemia, anorexia, insomnia, melancholia, and, perhaps, hysteria develop.

Inasmuch as it is not within the power of the physician to remedy this evil system of handling our young women, it remains for him to

evolve means of attenuating, as far as possible, the injury done, and preventing the development of lasting diseases which have their origin in the shattered nervous system.

This is best accomplished by the upbuilding of the psychical and physical resources of the individual. Not by the employment of stimulants which act, ephemerally upon the organism, but by encouraging functional activity to its maximum degree consistent, of course, with normality.

Obviously, this must be done by maintaining the entire digestive system at its proper standard, for it is through these channels that vital force is obtained and the well-being of the economy is preserved.

It is not consistent with logic to achieve this end by resort to the employment of those agents which relieve the digestive secretions of their special provinces. On the contrary, it is the very extreme of indiscretion to encourage dependency of the gastric or intestinal fluids, or to aid them in the performance of their duties beyond very circumscribed limits.

Quite the most rational course to pursue is that of extending to Nature gentle, but ample, encouragement through the administration of an agent which is capable of bringing functional activity to its highest point without entailing the necessity of prolonged drugging. It is supremely important that the drug be one that can be withdrawn without leaving the economy disqualified to maintain a normal fund of vital force.

It is here that iron is of the greatest therapeutic use. Not only does it impart to the blood stream a full measure of nutrition-conveyors in the form of hemoglobin, but it substantially increases the capacity of the tissues to absorb and utilize the nourishment placed at their disposal by the circulatory system.

Further, iron, when administered in the proper form, augments functional activity throughout the entire digestive apparatus, and, thus-wise, enables the economy to secure the full benefit of the food supply. To this action of the drug is due the greatest profit to the individual resulting from its use.

The objections to some forms of iron gain added importance in this particular class of cases, for the reason that the peculiarities of the disorders under consideration are such as to be greatly aggravated by an improper form of iron.

Chief among these peculiarities is constipation, which is invariably a disturbing factor. The existing constipation is easily made worse by both the carbonate and acid solutions of iron; and, in fact, these forms of the drug are notably stool-discouraging. Digestive processes are also depressed by these forms of iron, and headache frequently follows their use.

Partly because of these objections, but mainly on account of its manifold advantages, Pepto-Mangan (Gude) is given the preference over all other forms of iron, and a mass of clinical data has been brought forth to sustain this opinion. Pepto-Mangan (Gude) is of the greatest aid in the treatment of all the ill-defined disorders commonly encountered among school-girls who exhibit a tendency to anemia, nervous debility, anorexia, moroseness and mental depression.

Obviously, this general emphatic endorsement of Pepto-Mangan (Gude) by the most exacting members of the profession is based upon a critical analysis of its therapeutic advantages over the ancient forms of iron.

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REPRINT OF EDITORIAL FROM *SCIENCE SIFTINGS*, OF LONDON, ENG., APRIL, 1905.

HYDROZONE AND GLYCOZONE.—In the *Lancet* (Nov. 19, 1904), we note the report of an important lecture on abdominal surgery, by Dr. Frederick Holme Wiggan, of New York, in which marked notice is taken of two preparations employed by him for treating the wounds—viz., hydrozone and glycozone.

We have since become convinced, from our own investigations, that these two agents are not only remarkable allies of the surgeon, but products which can be made of the highest possible value in domestic medicine. Though the uses of both are very wide, we will confine our remarks here mainly to hydrozone. This is an exceptionally strong solution of hydrogen peroxide (30 vols.), free from barium salts and superfluous acids. This latter feature is very important; for, it is the presence of these salts, combined with excessive acidity and limited strength, that has diminished the value of the peroxides hitherto commercially produced.

The powerful oxidizing effect of peroxide of hydrogen upon organic substance is recognized by medical authorities throughout the world; but, to test for ourselves the claims of hydrozone as an antiseptic we made a series of germicidal experiments.

The organism known as *bacillus coli communis*, was employed as being one of wide-spread occurrence, and one which is always present in sewage. A vigorous culture of this was grown in broth, and equal volumes of it were exposed to the action of (1) phenol solution (1 in 80); (2) undiluted hydrozone; (3) equal volumes of hydrozone and water; (4) one part of hydrozone mixed with three of water. The action was allowed to continue for two minutes, when a sub-culture was made from each mixture. At the expiration of five minutes, another sub-culture was made; and a third was made at the expiration of ten minutes. These

sub-cultures were then incubated at 20°C. (68°F.), and were examined at the end of 48 hours. Those cases in which the organism showed signs of growth are marked by an \* in the following table; those in which no growth was observed are indicated by a †.

No. of Solution.	After 2 mins.	After 5 mins	After 10 mins.
(1)	*	*	†
		(very slight growth)	
(2)	†	†	†
(3)	†	†	†
(4)	*	*	†
		(very slight growth)	

It is obvious from the foregoing table that hydrozone is a great deal more powerful in its action on the organism employed than is *r* in *So* carbolic. It was also shown that glycozone (undiluted) is about equal to *r* in *So* carbolic.

These experiments fully confirm the claims made for hydrozone and, also, indicate one of the causes that render it so effective a cure for a wide range of maladies. It is not only an antiseptic, but it is an entirely innocuous one; for, while it is capable of destroying pathogenic germs, it is quite harmless to healthy tissue. This, of course, cannot be said of carbolic.

The healing action of hydrozone is obvious to the unaided eye, for when it is applied to a diseased surface it may be seen stimulating healthy granulations and gradually building up the tissues. We have seen its effect on a large number of lesions which cannot be enumerated here. It acts as ozone does; and, like nascent oxygen itself, when applied to a wound it increases the circulation and acts as a stimulant. Immediately the liquid is applied to an open wound, an effervescence commences and the wounded tissue can actually be seen uniting by a process of granulation, the healthy tissue proliferation being extremely rapid. The cessation of the effervescence indicates the destruction of the pus.

This, however, is only one of its uses, for the internal administration of hydrozone has long been recommended. In infectious diseases and in diphtheria there can be few things to equal it, owing to the property it possesses, as shown by our experiments, of destroying low organisms. The range of diseases for which it is recommended is wide. It covers diseases of the nose, throat and chest; diseases of the genito-urinary organs; inflammatory and contagious diseases of the alimentary canal; skin diseases; diseases of the ear and eye; and many dental conditions.

Glycozone may be regarded as an adjunct to hydrozone. Its effect is slower; but, as a dressing, after hydrozone has been applied, it acts

most efficiently, continuing the work commenced by hydrozone. Sometimes hydrozone, taken internally, causes slight nausea, then it is well to commence with the milder glycozone.

We have watched the effect of these remedies, particularly in open sores, diseases of the nose and throat, and ulceration of the stomach; and, from the remarkable results we have seen achieved, we are satisfied that the general claims advanced—vouched for as they are, by the widest medical authority—are not by any means excessive. To Professor Marchand we award the *Science Siftings' Certificate of Merit*.—Abstract of Editorial from *Science Siftings*, London, Eng., April 8, 1905.

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#### BACTERIOLOGICAL WALL CHART FOR THE PHYSICIAN'S OFFICE.

One of our scientific and artistically produced bacteriological charts in colors, exhibiting 60 different pathogenic micro-organisms, will be mailed free to any regular medical practitioner, upon request, mentioning this journal.

This chart has received the highest praise from leading bacteriologists and pathologists, in this and other countries, not only for its scientific accuracy, but for the artistic and skillful manner in which it has been executed. It exhibits more illustrations of the different micro-organisms than can be found in any one text book published.

M. J. BREITENBACH CO., New York.

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#### RESOLUTION AGAINST PATENT MEDICINES.

The Germantown Homœopathic Medical Society, of Philadelphia, places itself on record as opposed to the manufacture and sale of all patent medicines or nostrums of whatsoever sort, and requests all members of the medical fraternity to abstain from publishing their articles in any medical journal advertising patent medicines or nostrums.

This Society commends all medical journals and all newspapers which abstain from advertising patent medicines and nostrums for their campaign against the patent medicine and nostrum business.

The Pure Food Commissioner of the State is commended for the work he is accomplishing in this direction, and this Society pledges him its support in all future efforts of the same kind.

The public is cautioned against the use of patent medicines and nostrums as unscientific and dangerous to the general health and welfare.

## ANTIPHLOGISTINE IN DEMAND.

The enterprise and courage of the members of the San Francisco drug trade were clearly exemplified during the recent disaster. Before the fire was extinguished they placed large orders with the manufacturing chemists. One house ordered 30,000 pounds of Antiphlogistine, and altogether over 100,000 pounds were shipped to the coast upon order within a week.

On a steamer from New York, running up the California coast at the time of the earthquake, were 35,000 pounds of Antiphlogistine, and upon orders from the home office, the emergency hospitals were liberally supplied free of charge.

## THE BLOODLESS PHLEBOTOMIST.

The April issue of *The Bloodless Phlebotomist* contained a grist of interesting original matter which will appeal to medical men. Among the leading articles are:—

“Proprietary Remedies from the Physician’s Standpoint,” by W. J. Robinson, Ph.G., M.D., of New York.

“The Lesson of the Yellow Fever Epidemic,” by Daniel Lewis, M.D., LL.D., of New York.

“Delirium Tremens,” by T. D. Crothers, M.D., of Hartford.

“The Alkaloidal Treatment of Pneumonia,” by W. C. Abbott, M.D., of Chicago.

“Otitis Externa Circumscripta,” by Prof. James A. Campbell, M.D., of St. Louis.

## THE DECLINE OF CHAMPAGNE.

The *Daily Express* writes:—

“No man who knows his London—the London, that is, of the fashionable restaurant and the well-to-do citizen—can fail to have been forcibly impressed by the extraordinary decrease in the consumption of wines and spirits during the last five years.

“Champagne and other expensive wines have practically disappeared from the tables except at supper-time, and, indeed, even at that festive meal the all-conquering mineral water is by no means inconspicuous.”

It has ceased to be fashionable for ladies to drink wine, and the mere man is content with a whiskey and soda.

Athleticism, hard times following the South African war, and the warnings of Sir Frederick Treves have had an immense influence.

Apollinaris, or Apollinaris with a little whiskey, one sees everywhere.