THE LATE DR. J. E. GRAHAM.

From the portrait by Mr. J. W. L. Forster.

The portrait was presented to the Ontario Medical Library Association, and unveiled by Professor William Osler, of Oxford, on 18th December, 1906.

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ST. MARY'S CLINIC, ROCHESTER, MINN.

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ONE of the most interesting features of this clinic is the exhibition of living pathology in contradistinction to post-mortem demonstrations. Dr. Mayo states that while post-mortem findings may make an excellent foundation for the study of medicine, they make a poor superstructure, and rational surgical procedure cannot be deducted from what is seen in the dead-house. For instance, we were formerly told that tuberculosis of the kidney was almost universally double, because, when the disease had extended so far that the patient succumbed, both kidneys were involved. The records of St. Mary's Clinic show that in the early stages 85 per cent. are single, and therefore amenable to surgical treatment. Again, in the matter of the relationship of laceration of the cervix to carcinoma, if there is no examination nor report of the cases until they are dead from carcinoma, with the cervix and contiguous parts a mass of disintegration and the landmarks obliterated, how is the matter of the previous laceration and erosion to be determined in relation to causation? The same with carcinoma of the stomach. If these cases are not seen until the patients are dead from the disease, when all the area of ulcer induration has been involved in the cancerous mass, what basis can there be for any statement as to the early development; or any hypothesis as to ulcer being a contributing, predisposing or exciting cause of the malignant degeneration? With regard to the latter, the ante-mortem pathological reports have been more than interesting, showing that in 39 cases in which a portion of the stomach was removed, 79.5 per cent. showed good evidence that the cancer had developed upon an old ulcer base, and histories and pathological findings gave positive evidence in over half the cases. This method of determining the ante-mortem conditions which are revealed upon the operating table in the early stages of disease, is revolutionary, especially with regard to conditions of the stomach, duodenum and bile passages, the pathology of which must be rewritten. Many of the standard works upon the stomach are, according to the teachings of this clinic, as full of fairy tales as were the chapters upon cellulitis and inflammation of the bowels that were written thirty years ago.

Another matter most thoroughly emphasized by the Drs. Mayo, and repeatedly impressed upon their visitors, is the fact that, while it is always desirable to be accurate in diagnosis, there are many cases in which it is not only impossible to determine the actual condition of an organ, but also it is frequently difficult to tell which is the offending organ. Especially is this the case when dealing with the upper abdomen. We must remember that our patients do not come to us for a diagnosis, but for relief, and without relief they will not be satisfied; and, while we should differentiate as much as possible, and in the great majority of cases be able to locate the trouble upon the operating table, if we fail to find sufficient disease in the organ examined to account for the symptoms given by the patient, we should continue our examination until we are satisfied that we have found sufficient cause, or until everything within the reach of the hand within the abdomen has been inspected. A striking example of the application of this method was given us in the case of a lady who recently had her right kidney stitched into place by a celebrated eastern gynæcologist. She still suffered with pain referable to the stomach. Dr. Mayo found cholecystitis, but not being satisfied that this finding was adequate to explain the symptoms, made a searching examination of all organs within his reach, and found, in the recently suspended kidney, a stone completely filling the pelvis. Dr. Mayo says while it is not necessary to be able to determine the definite pathology of a suspected organ, we should always be able to make what he calls a *surgical diagnosis,* which means a certainty upon our part of some definite lesion which demands surgical intervention. The intimate sympathetic connection between the abdominal viscera frequently causes a lesion of one locality to give discomfort in another. Cases were frequently presented with a history of severe and repeated epigastric pain, pointing towards ulcer or gall stones, when the examination upon the operating table showed only pyloric spasm, the result of concretions in the appendix. In all cases in which the abdomen is opened the conditions of the stomach, pylorus, duodenum, gall tract, appendix, kidneys and pelvic organs is determined, and, whenever possible, diseased conditions rectified. Dr. Mayo states that he feels free to do whatever can be done within one hour, but does not care to prolong the anæsthetic or manipulations beyond that limit.

The regulation of the operating rooms is perfect. During my four weeks' visit neither of the operators were known to have spoken harshly to either assistants or nurses, to ask any questions, nor give any advice to the anæsthetists, nor to speak disrespectfully of any other surgeons, while many were highly complimented. In this the Mayos show an example worthy of imitation by many inferior men. They never appear

hurried nor excited, but cool, calculating, deliberate and exceedingly dexterous. In more than 300 cases which passed through their hands during our visit, the knife was not used without a definite pathological finding, while occasionally a case, thought to be gall stones, was found to be ulcer of the duodenum, or chronic appendicitis, or the reverse. In all this time there was not one mistake in surgical diagnosis. As an indication of the accuracy in diagnosis at this clinic, out of 135 consecutive cases in which gall-bladder disease was found, 4 were called duodenal ulcer, 4 ulcer and gall stones, 6 ulcer of the stomach and gall stones, 12 were called duodenal or stomach ulcer, or appendicitis, while 106 were diagnosed without question as gall-bladder trouble, and proved by operative findings, or nearly 80 per cent. definite diagnosis with 100 per cent. surgical diagnosis. With a record like this, it is not to be wondered at that when the doctors of America require surgical treatment they buy a return railroad ticket to Rochester, in the full expectation of the enjoyment of the return trip.

The teaching at St. Mary's Clinic, with reference to a few of the most important conditions, might not be without interest.

Goitre.—The distressing symptoms that these patients complain of are frequently caused by a part of the fibrous capsule passing behind the trachea and œsophagus to connect with the opposite side, and containing a part of the gland. Extension below the sternum is also a frequent cause of obstruction to respiration. Dr. Mayo places great stress upon the retention of the parathyroids, which are situated two on each side, behind or within the capsule. They are small greyish bodies, looking like pieces of fat, about the size of a Lima bean. Their removal is followed by tetany, a frequent result when extirpation is practised. This was the cause of so much tetany following Kocher's early operations.

The parenchymatous enlargements in developing girls are usually best let alone, but if irregular enlargements, cysts, or adenomata are present operation may be considered. Graves' disease is due to excess of gland function, and while there may be little gland hypertrophy, certain areas may be affected. Instead of one row of cells lining the acini there may be three or four rows, giving an excess of cell activity. This excess of gland tissue must be removed, until the cell activity is commensurate with the requirements of the body. If after a part of the gland has been removed, and the symptoms are unabated or return after a few months, it calls for the further removal of gland tissue.

In the severer cases of exophthalmic goitre the patients receive several weeks of preliminary treatment, until the pulse becomes regular. A pulse of 140, if not irregular, is considered a contraindication for opera-

tion. The treatment consists of grain $\frac{1}{3}$ extract of belladonna three times a day, with quinine and strychnine. X-ray exposures are also made to the limits of toleration. The rays appear to have some direct action upon the glandular tissue, and cause the capsule to become denser, thus facilitating the removal. The operation is done under general ether anæsthesia, preceded by a hypodermic of grain $\frac{1}{3}$ of morphine and 1-200 of atropine. Operation upon many of these cases is a life-saving measure, and though the mortality is relatively high, Dr. Mayo has had over forty exophthalmic operations with but one death. Excluding malignancy and Graves' disease, Dr. Mayo's mortality, in over two hundred cases, was but one death from pneumonia on the eighth day. The operation can be best described in Dr. Mayo's own words:

We prefer the transverse collar incision. This is made across the neck from the inner border of one external jugular to the other, even though the tumor be unilateral. The incision includes the skin and platysma myoides and is convex on its lower border to accurately follow the skin lines of the neck, and it is usually over the centre of the tumor. The wound is enlarged by dissection of these flaps from above and below to the thyroid cartilage and sternum, narrowing in width of dissection top and bottom to the sterno-thyroid muscles and the sternum. The sterno-thyroid muscles, usually below, are separated above by a vertical incision. The group of muscles on either side comprising the sterno-hyoid, sterno-thyroid, and omo-hyoid are now separated from the loose cellular capsule of the thyroid gland and forcibly retracted. In this way sufficient space is secured for the removal of moderate-sized tumors.

In case more room is required for large goitres and for certain types of goitre, such as in Basedow's, it is secured by incising one set, and very rarely both sets of muscles covering the tumor. This muscle-incision is usually wrongly made over the bulging part of the gland in the line of skin incison, but should be made as high as the thyroid cartilage. Lateral retraction folds the muscles over the inner border of the sterno-mastoid. Partial section may be ample to afford sufficient space. The most important part of this high section of the muscles is that it preserves the nerve supply to these structures. The thyro-hyoid muscle is supplied by a branch from the hypoglossal, and the others by the loop of communication between the descendens and the communicans hypoglossi. It also exposes the key to the situation—the superior thyroid artery.

In very large tumors it may be necessary to secure still more room. This is accomplished by splitting the lower flap of skin and platysma in the centre of the sternal notch. This actually exposes the whole field of

operation. Such a dissection exposes all the area of the thyroid gland, and should be employed, especially by operators unaccustomed to this work. After the extirpation of the tumor, the muscles are united by suture; but, as this is one and one-half to two and one-half inches above the line of skin closure, the scar is broken and the skin does not become attached to and move with the upper muscle stump, as is so commonly seen. If it is desired to remove one-half the thyroid, the superior thyroid artery is first ligated at the upper horn which is then elevated and the posterior capsule opened and brushed to the midline. As the tumor is lifted, the one or two lateral veins are double clamped and ligated. The capsule is still further wiped inward and the lower lobe lifted, the inferior thyroid artery being clamped on a level with or above the capsule. Leaving the posterior capsule aids in saving the parathyroids. The isthmus is separated, clamped and cut.

Several dozen clamps are necessary at times, especially in exophthalmic cases, as the smaller vessels in these patients, from the thyroidism present, bleed like leech bites.

In the hard, rounded tumors the outer capsule should be penetrated to the shining capsule of the tumor within, which can often be enucleated. These are very safe cases for operative recovery. In the worst types of exophthalmic cases, after removing one half, which is usually the right, and the isthmus, the lower pole of the left side is elevated and the inferior thyroid ligated. An incision is then carried obliquely across this half of the gland from the isthmus to a point below the lateral vein. The lower part is removed and mattress sutures are used to stop bleeding. The removal of this part of the gland will cause more hæmorrhage than the removal of the other lobe and isthmus, but will be found to be worth while in both the immediate as well as the later results. The wound is washed with Harrington's solution, No. 9, before closing, in those cases which are to be drained; that is, in those cases in which the traumatic area will induce considerable wound secretion, and in the exophthalmics, because of the toxic nature of the secretion in these.

The practice of slowly giving large saline enemata by rectum seems to delay absorption in the exophthalmic cases, and restores fluid to the circulation in those in whom the operation is attended by considerable loss of blood.

These operations for goitre secure most surprisingly early results, the very worst cases often being able to leave the hospital in six days.

Ulcer.—Dr. Mayo does not consider acute duodenal or stomach ulcer suitable for operation, unless hæmorrhage or perforation be present. In cases of the latter, the stomach is opened, the bleeding point located, and sutured with catgut; linen sutures are also

placed from the outside through both peritoneum and muscle, encircling the vessels leading to the ulcer. In perforation, linen sutures are used similarly. If the ulcer is located in the duodenum, or at or near the pylorus, the line of suture is transverse to prevent subsequent narrowing through cicatrization. If the patient is in good condition, a gastro-jejunostomy is also performed, if it can be done without spreading the infection. A lower abdominal drain is inserted and the abdomen closed, with or without irrigation, and the patient placed in a semi-recumbent posi'ion. In acute perforation recovery usually follows if the case is operated upon within the first five hours. Chronic ulcer is best treated by gastro-jejunostomy. When there are large vessels showing upon the surface of the stomach at or near the site of the ulcer, they are ligated by a musculo-peritoneal suture. Cases presenting stagnation and retention of food, depending upon mechanical stricture of the pylorus, and those cases with repeated acute attacks, in whom frequent relapses prevent the enjoyment of good health, are suitable for gastro-jejunostomy. Operation in chronic ulcer is not recommended until careful and prolonged medical treatment has resulted in failure to give a permanent cure. There is a large class of cases, according to Dr. Mayo, in which great discrimination is necessary. Atonic dilatation, prolapse, and the many gastric neuroses which may so closely simulate ulcer, are rarely benefited by surgery; while incision is but rarely done, Dr. Mayo inclines to the opinion that the future treatment of chronic ulcer will incline more and more towards the radical operation.

Dr. Mayo does not consider gastro-jejunostomy a cure-all. It is simply drainage, relieving the duodenum and pylorus from irritation, usually giving speedy relief. More than 90 per cent. of the patients suffering from gastric and duodenal ulcer, who have had this operation performed, have recovered. The "vicious circle" has disappeared under the *no-loop* operation, namely, making the anastomosis in the jejunum within a few inches from its commencement, so that, after the operation, the stomach and bowel lie in their previous normal relationship.

The Gall Tract.—The investigations in this clinic will become historical, as one of the great factors in the elimination of "chronic dyspepsia" and "chronic gastric catarrh," as an entity, from our phraseology. These hoary expressions, laden with erroneous notions of physiology and pathology, are being slowly but surely eliminated. Gastralgia is passing, pastrodynia fails to get a hearing in the presence of demonstrations of definite gastric, duodenal and gall-tract pathology at St. Mary's Clinic. More than 90 per cent. of such cases have been proven to be gall-bladder trouble. Dr. Graham says that "were neuralgias of the stomach, gastralgias, cardialgias and acute indigestion forever buried

there would be a better state of diagnosis and a greater number of relieved and rejuvenated patients to rejoice over the graves of these bugbears." With an experience of over seventeen hundred cases of gall-tract disease, Dr. Mayo impresses the necessity of early diagnosis and operation in gall-stone cases before jaundice and other complications develop. In the early stages of gall-bladder disease, the mortality is low, about 2⅓ per cent. If the operation is postponed until drainage in ducts is interfered with and jaundice is present, the mortality rises to 11⅓ per cent. In the early diagnosis of these cases we must have in mind the conditions that so frequently give similar symptoms, namely, stone in the right kidney, ulcer and carcinoma of the duodenum and stomach, pancreatitis, and appendicitis. There is one combination of symptoms, which Dr. Graham states the greater number of cases fall under—sudden and severe pain at stomach area, at times without radiation, but frequently directed to the back or right shoulder region, always of short duration, occasional vomiting with abrupt disappearance, and immediate return to almost normal health. Add to this, sensitiveness of the gall-bladder area, and we can make a diagnosis with little chance of error. In some cases a definite diagnosis is impossible, yet a surgical diagnosis can be made, and the offending condition attacked. Jaundice is rarely present at the stage when it is essential to diagnose and give the patient the benefit of early treatment and low mortality. When the stone passes into the common duct, the condition changes from a simple local disease to one of severity and danger from cholæmia and liver infection. This infection may simulate ague, in fact it was the "bilious remittent fever" of former years—chills with a temperature of 103—107, followed by free perspiration and intensification of jaundice. In such conditions stones may form in the minute bile ducts. Operations during this acute stage of infection are especially dangerous; postponement is necessary until the quiescent stage is established. Operation is always fatal in those cases in which no bile is found in the ducts, there being present a clear fluid. In these cases, the liver has been put out of action. In the early stages of this condition, when the ducts are filled with dark-green bile, before the pigments have been absorbed, operation presents a better showing. In about 50 per cent., the liver will resume its functions and the patient recover.

Thorough drainage is Dr. Mayo's watchword in all operations on the bile passages. After the removal of stone from the common duct, a fish-tail drain is frequently inserted through the gall bladder and systic duct into the common duct. A drain is also placed on either side of the common duct opening, another in Morrison's pouch, and another below the pylorus. Cholecystitis, without stones, is usually treated by removal of the gall-bladder, as these cases are infected and, if treated by drainage,

might give rise to future trouble. Stones in the gall-bladder in those who have suffered from jaundice or other symptoms of infection call for gall-bladder drainage. Severe injury to the cystic duct, owing to the removal of a calculus, demands removal of the gall-bladder, also those bladders which are thickened and hard, and those with stones embedded in the cystic duct, also accute suppurative, gangrenous and malignant cases demand removal. A thickened gall-bladder was removed from an old man, the pathologist showing it to be carcinoma with a gall stone completely embedded within it, a corroboration of Dr. Mayo's oft-repeated statement that gall stones are a frequent cause of malignant disease. The mortality following removal of the gall bladder is nearly double that of cholecystotomy, so that the gall bladder must not be recklessly sacrificed. It is a most useful drainage canal and, whenever possible, should be retained.

Three cases of unusual interest were presented, each giving symptoms somewhat confusing and referable to both the gall tract and stomach. In each case Dr. Mayo stated his doubts as to the exact condition, and mentioned the possibility of ulceration from gall stones. In the first, an abscess was found to the left of the gall bladder, containing a stone which had ulcerated through the gall bladder. Free drainage was given. In the second, a mass of adhesions was found between the gall-bladder and pyloric end of the stomach, and within the mass a stone. Dr. Mayo considered it best not to disturb the adhesions and run the risk of two fistulæ, and allowed the case to work out its own salvation, as the stone would be discharged into the stomach. Dr. Mayo considers that all large stones find their way to the alimentary canal by a process of ulceration. In the third case, the stone had partially passed into the stomach, causing a fistula near the pylorus which required pyloroplasty.

THE DOCTOR AS EXPERT AND PIONEER.*

By CHARLES J. WHITBY, M.D.

THERE can, I think, be no doubt that for the public at large the medical profession functions as the type or symbol of the science of the day. And the reason of this is not far to seek. The electrical or mechanical engineer, the naval architect, the analytical chemist or the agricultural expert, may have equal or even greater claims to pose as the representatives of applied science, but, inasmuch as their work does not bring them into personal touch with society, their influence on public

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opinion is comparatively small. But the doctor in his daily round enters the house of prince and of pauper; he knows and is known by everybody, and his lightest word is the word of an initiate rendered authoritative by his accredited access to the latest spoils of contemporary research. The deference we are accustomed to expect, and upon the whole to receive, is not merely a personal deference, it is also the allegiance of uninstructed to expert opinion, to an impersonal authority whose mouthpiece we are or profess to be. If our confident predictions are falsified, our advice proved untrustworthy, our treatment disastrous, it is not we only whose reputations are impaired. By our failures the glory of Science herself, whose methods we claim to exemplify, is brought into question, and sometimes into ridicule or denial. By our successes, not few or of small account, I hope, the rightful supremacy of those methods is vividly enforced. So it is that in a given community the good or ill repute of our profession is a fair index to the condition and prospects of Science in general.

The economic support of the public is an essential condition of scientific progress, and will no doubt be favorably or adversely affected by the good or bad impression which we, as the accepted representatives of scientific method, produce on the minds of our patrons. An interesting point in this connection is the influence of democratic ideas and institutions on the position and authority of the expert. The typical democrat is, as a rule, somewhat jealous of the claims of the expert, he regards them with suspicion, defers to them grudgingly if at all, and without perhaps in the least understanding the matter, is apt to proclaim disbelief in their validity with a confidence worthy of a better cause. A certain amount of moral and intellectual insubordination, an all-round scepticism, is a logical correlative of democratic tendencies, and the doctor, in common with other authorities, has in these days to be prepared to justify his proceedings at every turn. He cannot vaccinate a baby without first submitting to cross-examination on the statistics of variolous immunity, or administer a dose of calomel without allaying the terrors of the anti-mercurial zealot. Your ultra-radical will insist that his primiparous wife must be delivered by "natural" means only; he "does not believe" in instrumental interference or the use of anæsthetics. I make these observations, the truth of which your experience will doubtless compel you to confirm, with no intention of belittling popular government, but as a simple statement of fact. Science does not fear criticism, but welcomes it, and thrives upon it as we know. A critical atmosphere hardens and fortifies the spirit of research, as cold pure air braces the human organism. But captious quibbling and prejudiced question-begging are of course another matter, and of them too we have

enough and to spare. In some ways an autocracy, or such a *régime* of strong centralized government as obtains now in Germany, is doubtless more favorable to the just authority of the expert than our own more liberal constitution. On the other hand, we must always remember that science is made for man, not man for science. In other words, we must not disdain to justify our assertions when challenged by ignorance or mistrust, since what we desire is not sullen acquiescence but willing and intelligent co-operation. For we, too, are fallible, and have, in fact, if we know the history of our calling, to admit conviction of not a few gross errors very confidently and unanimously proclaimed as indubitable truths in their day. The expert, *quâ* expert, is a man of his own generation, sharing not only its knowledge and skill but also its prejudices and limitations. What he sees he sees very clearly; what he does not see he is too apt to ignore, and somewhat rashly and prematurely to deny. In so doing he runs the risk of being falsified by the event, for the vague possibilities of to-day are often the platitudinous verities of to-morrow.

Consider, for example, the astonishing revolution which has overtaken medical opinion as to the role of alcohol in health and disease. Fifty years ago we were practically unanimous in asserting the value, nay, even the necessity of stimulants for those who enjoyed and would continue to enjoy good health, while in almost every disease which we were called upon to treat they were freely and fearlessly prscribed. The question in those days was not of alcohol or no alcohol, but merely in what form and how much. Only the other day I saw quoted in a daily newspaper the no doubt self-forgotten dictum of a great and justly revered physiologist, still amongst us, to the effect that no man could enjoy real health and strength without the regular use of alcoholic beverages. In saying this the physiologist in question did not really speak as an expert, but uttered a dogmatic, and, as it happens, erroneous opinion. But the public would of course conclude at the time that so definite an assertion, coming from an acknowledged authority upon the subject of health and its conditions, was based upon substantial and verifiable grounds.

The expert owes it not only to himself but to science to distinguish clearly in his own mind, and above all in his utterance, between those conclusions which are firmly based upon irrefutable evidence and those which are mere opinions awaiting the verdict of time. Strictly speaking, there is in the scientific sphere no recognition of the claims of authority, every result stands or falls according to the objective quality of the evidence available in its behalf. A very good corrective of the narrow tendency of the specializing expert's work is the due cultivation of what is

called the historic spirit. If we to-day are convinced that alcohol is very far from being a necessity of life, we are only returning to the normal common-sense view of enlightened people in most times and places. Two thousand years ago Julius Cæsar, finding in the conquest of Gaul no tougher or more formidable opponents than the tribe of the Nervii, noted with characteristic appreciation the fact that they were water drinkers, who, on account of its injurious effects on their sinews and courage, forbade wine to be brought among them.

Most of us can remember in our student days having puzzled our heads over elaborate and strangely-contradictory statements as to the number of grammes of proteid, amyloid, and fatty material per diem necessary to maintain a normal human adult in health and activity. Personally I confess to having regarded these tables with a good deal of suspicion, partly because of their obvious mutual inconsistency, and partly on account of the crudity of the methods of investigation upon which they were based. One well-known table was drawn up by a celebrated German physiologist, who found that it represented the quantity and proportions of food upon which *he* felt well. It was copied from text-book to text-book, and became a sort of classic—an authoritative statement of the needs of the human organism. That it was entirely erroneous I need scarcely say, inasmuch as Prof. Chittenden, by a series of careful experiments, has recently demonstrated that many people can fully maintain the nutrition and functional activity of the body on a quantity of food which would, before these experiments had proved the contrary, have been considered miserably inadequate. An instructive instance of the danger of passing off as matter of expert knowledge what is in truth mere matter of unverified opinion.

It behoves us in these days to be the more careful as to the scientific validity of our official statements because of the freedom with which irresponsible persons, and in particular that modern idol the literary man, delivers himself of cocksure conclusions upon things as to which he has no real knowledge at all. Take the flagrant case of that notorious publicist, Mr. George Bernard Shaw. Mr. Shaw calls himself a Socialist, and the creed of the Socialist presumably includes a due respect for conscientious work of all necessary kinds. That the work of the general practitioner is necessary perhaps even Mr. Shaw would not venture to deny. That it is laborious and exacting we all know pretty well. In what way is a man who merely writes plays qualified thereby to act as a censor of men who attend to the sick and suffering? This oracle has the impertinence to sneer at the "inculcated erroneousness of the general practitioner." The world could more easily dispense with Mr.

Shaw's plays than with the work of nine out of any ten of those men for whose intelligence he affects an easy scorn. Then after giving away the case against vaccination by admitting that the possibility of artificial immunization is still an *open* one (as if Jenner, Pasteur and Behring had never lived), Mr. Shaw proceeds in desperation to attack the technique of the vaccinator (a mere "general practitioner"), and to assert in his usual *ex cathedrâ* style of infallibility that vaccination is "attempted murder," and that its results are precisely the same as those of rubbing the contents of the dustbin into an open wound. These inaccurate statements of course found ready acceptance in the columns of the *Daily News,* and were no doubt duly relished by its readers. Vaccination *is* unpleasant, and how eagerly at all times are acclaimed the most puerile arguments for the neglect of unpleasant obligations. Mr. Shaw, like all egoists, fails by reason of his mean estimate of other folks' ability. Even for the immortal *doyen* of his own calling he has practically no commendation to spare, so it is hardly surprising that our profession is included within the ban of his general censoriousness.

"He who can does, he who cannot teaches." So by the mouth of one of his *dramatis personæ* epigrammatizes the author of "Man and Superman." And it is for once a true though a self-condemnatory maxim. The intellectual influence of our profession is, I am proud to think, securely based on the fact that its tasks keep us firmly and steadfastly in touch with commonplace realities. We are perforce not mere scholars, but artizans also; brain and hand are developed together, as in the evolution of our species we are taught that Nature ordained from the first. This it is which keeps or should keep us progressive, which in the long run will render us more than a match for the men of words, who think to find facts as pliable as they find the fantastic incidents of their plays and novels, and with men of sound judgment will render our verdict more acceptable than that of our flimsy opponents.

Yet there is need of vigilance, for the name of the enemy is Legion, and his wiles are many and specious. Take the question of quackery, and of the impudent lies complacently published on its behalf by respectable journals. I read in the paper that Mr. Herbert Gladstone, a member of our enlightened and progressive Government, in answer to a question by Mr. Myer, admitted that the sale of quack medicines was an evil, but considered that it was to be met rather by the spread of education than by Government prosecutions for fraud. The clear implication is that only the uneducated are liable to beguilement by the syren song of the patent pill factor and the "strong man" turned charlatan or self-styled healer. Is it just or even decent that men who have submitted to

a long, arduous, and costly training, who from motives of honor and public spirit refrain from self-adulation or display, who share all their hard-won knowledge, not even concealing the steps by which it is being or is hoped to be attained, shall be liable to the irresponsible competition of presumptuous and ignorant braggarts? The gods help those who help themselves. The public takes good care that the qualified doctor is a genuine expert, but it cares little to protect him from the parasites who trade upon average credulity and slander us daily in lying advertisements. If we wish these things altered we must see to it ourselves, there is no other way.

The plague of amateur doctors will never be stayed by mere education. On the contrary, it is perhaps the educated section of the community who both actively and passively are the worst sinners in this respect. Your modern quack is no mere ignoramus; he has often received a University education, and he poses as a reformer of our therapeutic and dietetic iniquities. He figures largely in the press, both as the munificent source of costly advertisements and as a paid contributor of pseudo-scientific disquisitions. His portrait confronts us in the pages of English and American magazines, modestly chaperoned by those of the greatest scientific discoverers of the present and past ages. His massive torso, represented in an attitude of profound meditation upon the merits of the *dernier cri* in beef extracts or tonic elixirs, adorns the window of the ready-money druggist.

It must of course be admitted that legally-qualified men have no absolute monopoly of discovery even in their own field. The inventor of the laryngoscope was not a medical man, but a great singer. Pasteur, the true founder of bacteriology and serum-therapy, which is as much as to say the revolutionist of medical science, was a layman. Our present attitude with regard to alcohol was in great measure foreshadowed by a popular movement, which proclaimed, perhaps prematurely and without scientific justification, yet as it proved correctly, the fallacy of our official view in those days. What we now call suggestion was, under the name of mesmerism, for long the happy hunting-ground of sciolists and quacks, while therapeutic electricity is even yet fighting for that position within the professional fold from which it has too long been unwarrantably excluded. It is in view of such facts of recent history—awkward facts they might be called—that I would modestly urge that the doctor *qua* expert needs to be supplemented and completed by the doctor *qua* pioneer. Let me suggest as a theme for exercise in the art of social prognosis the consideration of the ultimate effect of our knowledge of Japanese energy and efficiency on the one hand and of Japanese abstemiousness in respect of animal foods on the other upon our time-

honored national faith in the supreme fighting and working qualities of the largest consumers of Old England's roast beef.

One matter in which our profession may fairly claim to have played the part of social pioneers is the introduction of motor vehicles. No class of the community has been quicker to realize and avail itself of the advantages of petrol horse-power over mere horse-flesh. I look upon the advent of the motor as an innovation almost equal in importance to that of the steam locomotive; not so much perhaps for its direct and immediate consequences, as for those remoter but not less inevitable results which I foresee. The dust problem, for example, has at last been definitely and even substantially raised, and I think it may fairly be assumed that its final solution is merely a matter of time. The abolition of dust would, in my opinion, be a hygienic reform in comparison with which the elimination of the malaria-bearing anopheles would appear almost insignificant. The desiccated filth which blows about our streets and enters our houses by every nook and cranny, swarming no doubt with virulent microbes of every description, is, I am convinced, responsible for a much larger proportion of minor and major ailments than is at all commonly suspected. The dawn of the aseptic ideal in surgery and obstetrics has given a quite new significance to the conception of cleanliness. From the point of view of the aseptic ideal we are all unclean in person, dress, and environment, our foods are all more or less poisonous, and the state of our great centres of population is unspeakably filthy throughout. Imagine the horror with which we should regard a revival of the habits of those mediæval grandees who looked upon a bath as a thing to be taken once or twice in a lifetime at the most, and then with no slight misgivings as to the possibility of a fatal result. Even such is the emotion proper to the mind of the medical pioneer, who, aspiring to cleanliness in the twentieth century sense of the word, beholds our native land as it is. Obviously personal cleanliness in the scientific sense is impracticable without social cleanliness, or in other words a truly rational civic hygiene as its basis. Dust must be eliminated by an appropriate treatment of our streets and roads, houses must be spaced out, slums abolished, railways electrified, furniture and upholstery reconsidered, the dress of men and women revolutionized. Some three years ago we had an unusually wet summer, and, as you no doubt remember, we doctors had little or nothing to do. Never had there been such a dearth of seasonable ailments; and if part of this immunity was due to the free flushing of sewers, part may also be attributed to the absence of germ-distribution by dust. The time seems ripe for the formation of a league of medical pioneers vowed to a crusade against the dirt and noise which are the twin curses of our modern civilization.

The subject of noise is indeed one upon which I could speak feelingly, seeing that I am at present living in the close vicinity of a shunting sideway, but the topic might prove conducive to unparliamentary language on my part, if not on yours. If my views as to the nature of modern obligations in the matter of cleanliness, as to its being practically synonymous with asepsis, appear Utopian, let me suggest that Science is nothing if not Utopian, for she aims at and will ultimately accept nothing short of perfection. Of course, I am aware that inasmuch as a certain percentage of dust is found in the air of mid-ocean, polar and mountain regions, its complete eradication from that of inhabited districts is in the strict sense impracticable. But such dust contains, I presume, no virulent micro-organisms, and can be inhaled without danger of incurring influenza, phthisis, rubeola or scarlet fever. In fact, dust in the scientific sense is one thing, and in the popular sense of mere dirt quite another.

As an example of what can be and has been done in an analogous line of activity by intelligent expert co-operation, let me refer you to a little book on "The Real Triumph of Japan," by Dr. Louis Livingstone Seaman. In wars between civilized countries it has for centuries been the rule that, of the total mortality incurred, only 20 per cent. die on the battle-field or from the effect of wounds, the remaining 80 per cent. perishing from disease, mostly of a preventable kind. It is said that during the Crimean war the allied forces lost in six months 50,000 from disease and 2,000 from bullets. In the Boer war our own losses from disease were simply frightful, greater in proportion than those in the American civil war, where nearly three times as many died of disease as of bullet or sword. Now Japan in her first great modern war, against China in 1894, followed pretty much the general rule, having 45 per cent. of her men incapacitated by disease. But Japan differed from other nations in that this object-lesson was not thrown away. She evolved a system of her own, based on the best available models, but considerably modified, and aiming at prevention rather than cure. The result was that in the great war just brought to a triumphant conclusion, against every four casualties of battle the Japanese had but one from disease, thus completely reversing the traditionary proportion. The expert had been given a free hand, and the expert had justified his existence.

If results at all comparable to this could be obtained in reduction of infant and adult mortality in civil life, it would pay the community to subsidize the entire profession on condition of its organization as a society of hygienic experts for the prevention as well as the cure of disease. Our public health service is no doubt admirable so far as it goes; it may some day be supplemented by a private health service, a service of general

practitioners—preventive rather than curative in aim. Why await the advent of mischief which could so often have been averted by the detection and removal of the causes which must bring it about? We shall never do justice to our knowledge until we are, at least in some degree, emancipated from direct economic dependence upon the voluntary requisition of our patients. We are often constrained to give medicine where we should prefer to withhold it, because we cannot afford to combat the superstition that recovery, apart from the ingestion of drugs, is necessarily slow and incomplete. The health of a nation, which is its vital capital, is after all made up of that of the private individuals who compose it, and though much may be done by efficient drainage, pure water supply, meat inspection, visitation of dairies, prevention of adulteration, notification and removal of infectious cases, and other public means, to prevent the grosser forms of epidemic and endemic disease, there is an immense field for fruitful effort in the detection and combating of those minor sins against personal hygiene which are the source of innumerable ailments. Is not the rapid increase of lunacy strikingly suggestive of ill-regulated households, erroneous dietetics, neglect or abuse of exercise, frenzied pursuit of pleasure and excitement, as contributory, and quite preventable, causes? Might not a word in season to someone in authority often have averted the tragic issue?

Then there is the stupendous evil of infant mortality, with which, considering the importance of the constitutional factor, known to the family doctor and to none beside, I am convinced no cut-and-dried public advice and regulation can effectively deal. Infant feeding is pre-eminently a relative matter; there is no possibility of laying down a definite percentage of nutrient materials that shall suit every artificially-fed infant. As things are at present, we are too often called in too late to remedy the results of malnutrition. I think that every mother should suckle her child unless exempted by a certificate of unfitness to do so. And I further suggest that on registering the birth of a child the parent should state whether it is to be naturally or artificially fed. If the latter, a form should be supplied to be filled in at definite intervals by the medical attendant. On this form periodical entries might be made by him, giving particulars of the dietary and progress of the infant. In this way valuable statistical evidence would be collected as to the best way of rearing handfed children. All such information should be paid for out of the public funds. In some such way the national disgrace of our present infant mortality might be effectually removed.

In conclusion, I submit that the doctor, both as expert and pioneer, has by no means the power and authority that are his due. Of influence

we have plenty; and influence is in a way a higher and greater thing than authority. We need not forfeit that, but we must have the other also. We must come out into the open, make our voices heard above the futile clamor of partizans, clear the cranks and babblers out of the path of progress, point the way to higher and saner ideals. Point the way? Nay, more, we must lead, for example is better than precept. Such a function is worth the sacrifice of some of our official conservatism, some of our diffidence and reserve, even, at a pinch, of the outermost husk of our cherished respectability.

OPSONINS AND BACTERIAL VACCINES.*

By G. W. ROSS, M.A., M.B., M.R.C.P., Lond., Toronto.

I NEED hardly tell you that in the short space of time at my disposal I shall be quite unable to discuss in any detail this already considerable subject. I propose to refer briefly to the bare principles of the opsonic theory, and then to consider the principles and practice of therapeutic inoculation with illustrative cases.

Let me first of all recall to your minds certain important characters of the antibacterial substances in the blood known as opsonins.

1. Opsonins act by chemically uniting with the invading bacteria and so altering them that the leucocytes are able to phagocyte the bacteria and destroy them. It is important to remember that these substances do not stimulate or otherwise affect the leucocytes.

2. It is probable that there are many varieties of opsonins present in the blood plasma, each having to do with combating a particular kind of microbic invasion.

3. Opsonins have been shown to be distinct from other bacteriotropic substances, such as the bacteriolysins, the agglutinins, and the antitoxins.

The role of the leucocyte now calls for attention. Wright and Douglas and Bulloch have shown that the leucocytes of people in good or in ill health have the same ability for phagocytosis, provided only that the bacteria have been acted upon by the same blood serum. If that be so, then the amount of phagocytosis of bacteria determined in any given preparation is an indication, not of leucocytic activity, but of the richness of the plasma in those substances which are essential for phagocytosis—namely, the opsonins.

* Read at the Toronto meeting of the British Medical Association, Section of Therapeutics.—*British Medical Journal*, 24th November, 1906.

The opsonic content of any blood, therefore, is arrived at by comparing the amount of phagocytosis observed as a result of the activity of its serum with the amount of phagocytosis observed in the case of a normal serum used as control. The figure so obtained is termed the "opsonic index" of the patient's blood.

If, therefore, we say that a patient's blood has an opsonic index of 0.5 to the tubercle bacillus, what do we mean? Simply that it contains but one-half the normal quantity of those opsonins which are essential to a combating of the *Bacillus tuberculosis*.

These, gentlemen, are the bare principles of the opsonic theory.

Therapeutic Inoculation.

Let us now pass on to consider the treatment of bacterial infections.

This has been, and must continue to be, either the surgical removal of the bacterial focus (such as is done with a small patch of lupus vulgaris) or the determination of an adequate antibacterial substance to the focus (such as is possibly done by the application of carbolic acid to a furuncle, or by therapeutic inoculation of an appropriate bacterial vaccine).

It is important to consider antibacterial or bacteriotropic substances for a moment. They may conveniently be divided into:

A. *Chemical antiseptics* extracorporeal in origin, such as carbolic acid and perchloride of mercury.

B. *Immunizing substances* intracorporeal in origin, such as the bacteriolysins, the agglutinins, the antitoxins, the opsonins, and probably others as yet undiscovered.

Hitherto we have pinned our faith to chemical antiseptics, and the history of medical therapeutics is replete with failures of the many varieties of chemical antiseptic to control bacterial infections. To-day there are but two left, namely, quinine and mercury, and, strange to say, both of these antiseptics are effectual in diseases which are protozoal in origin, and not bacterial.

In surgery, even, the efficacy of antiseptics is being more and more questioned. There is a large and increasing school that practises asepsis; and furthermore, Sir Almroth Wright has recently shown that the application of antiseptics to a healthy wound may predispose to bacterial invasion because of the fact that the natural bacteriotropic substances of the body fluids are completely neutralized, even by weak solutions of antiseptics.

Since, therefore, chemical antiseptics have proved somewhat disappointing, we naturally turn with renewed hope to the other great class of bacteriotropic substances, namely, the immunizing substances.

The best known of these is the antitoxin of diphtheria. Of this I need not speak. The bacteriolysins and the agglutinins have so far not knowingly been exploited to any great extent in the production of artificial immunity. The opsonins, however, demand especial consideration because of the important position they have already come to occupy in a rational system of therapy.

I shall first of all submit to you a classification of bacterial disease that has emerged from many thousands of estimations of the opsonic power of the blood in almost every variety of microbic infection.

A. *Diseases in which the Bacterial Process is Strictly Localized* (that is to say, in which the focus is shut off from the lymph and blood circulations).—This class includes almost all chronic infections. I will cite a very few as examples: Furunculosis, sycosis, tuberculous adenitis, lupus, probably early pulmonary tuberculosis, etc. In this class the opsonic index of the blood is persistently below normal owing to the absence of immunizing stimuli.

B. *Diseases in which the Bacterial Process is but loosely shut off, especially from the Lymph Circulation.*—These are more acute in their course, and furthermore, are continually sending into the circulation immunizing stimuli in the form of the bacterial products of the infection. Consequently, the opsonic index tends to fluctuate from high to low. The best example of this class is ordinary fibro-caseous pulmonary tuberculosis.

C. *Diseases in which the Bacterial Infection is in the Blood Stream.*—This class includes amongst others, ordinary septicæmia, Malta fever, enteric fever, and ulcerative endocarditis. It is probable, moreover, that most of the acute infectious fevers are included here. The outstanding clinical characteristic of diseases of this class is that they tend quickly to cure or to death. It is probable that the opsonic index in these diseases is usually below normal. We need not stop to discuss the reason for this.

The above observations acquire especial interest and importance from a therapeutic standpoint, because it would seem that chronicity of a bacterial infection is dependent upon a deficiency of particular bacteriotropic substances, and furthermore that the increase of these substances by a proper inoculation with an appropriate bacterial vaccine will usually determine the eradication of the infection.

The general principles of treating any bacterial invasion after the manner of Sir Almroth Wright and Captain Douglas are briefly:

1. Isolate in pure culture the causative micro-organism.

2. Estimate the opsonic power of the patient's blood to this micro-organism.

3. If the opsonic index be at or below normal, prepare and standardize a vaccine from this micro-organism.

4. Inoculate the patient with this vaccine with appropriate doses and at proper intervals as shown by a systematic estimation of the opsonic content of the patient's blood.

We ought, perhaps, to consider for a moment what supervenes upon the inoculation of a proper dose of a bacterial vaccine. Shortly after inoculation there is a depreciation in the amount of the opsonic content of the blood; this is the negative phase of Wright and Douglas. After a variable period this phase of depreciation passes off, and there is an increase in the amount of the opsonins above the original point. This is the positive phase. After a time the blood tends to return to the antecedent condition. These considerations are not academic, but most practical, because they, and they alone, tell us when to reinoculate. The cardinal principle is to reinoculate only when we observe (by examination of the patient's blood) that the positive phase of opsonic power is waning. We must never reinoculate during a negative phase, or we will still further drive down the bacteriotropic power of the patient's blood and do him harm.

Let us now consider that first great class of bacterial infections referred to above—namely, those in which the process is strictly localized. I can, perhaps, best illustrate the method of approach to a case by referring in some detail to a case of empyema which I treated at the Victoria Chest Hospital, London.

The patient, a male aged 20, was under the care of Dr. Glover Lyon. He developed a right-sided empyema, which was treated by resection of a portion of a rib, evacuation of the pus, and drainage. Seven weeks later, in spite of careful surgical treatment, the wound was discharging ℥ss of pus every day, and a sinus quite 4 in. long persisted. I investigated the pus bacteriologically, and obtained a pure culture of the pneumococcus of Frænkel. With this organism I estimated the quantity of pneumococcic opsonins present in the patient's blood—that is to say, I determined the patient's opsonic index to the pneumococcus. This I found to be 1.0, or normal. In spite of the fact that there was no deficiency of the pneumococcic opsonins, I still thought that I might do good if I could increase their quantity to a point well above normal, for it seemed probable that the thick pyogenic membrane of a chronic empyema would so impede the flow of lymph to the bacterial foci that normal lymph would have insufficient opsonic power to prevent the growth of bacteria there. I therefore prepared a vaccine by inoculating a dozen milk-agar tubes with the pneumococcus I had isolated from the patient's

pus. Having obtained a vigorous growth, I removed the colonies from the agar tubes to normal salt solution. This I sterilized at 60° C., and then standardized. I gave the patient a quantity of my vaccine containing 100,000,000 pneumococci. On the day following this first inoculation his opsonic index shot up from 1.0 to 2.5, that is to say, he had more than doubled the quantity of his pneumococcic opsonins. During a period of two weeks he had three inoculations, and upon each occasion there followed an exaltation of the opsonic index. The clinical result was very striking. At the end of the first week of treatment there was a diminution of the discharge, and a shortening of the sinus. At the end of two weeks the discharge had entirely ceased, and the sinus had closed. All that remained was a scab covering the original wound. The patient left the hospital a few days later, and went to work at once. He has remained quite well since.

After a similar fashion do we approach all forms of localized bacterial infection in which we are able to isolate and cultivate the particular microorganism. Those infections due to the *Staphylococcus pyogenes* require a staphylococcic vaccine. The more common of these conditions are pustular acne, furunculosis, sycosis. Of these, I have treated two cases of severe chronic acne with success, and one case of intractable furunculosis. I know, moreover, that sycosis, as a rule, reacts readily to inoculation without having recourse to epilation.

Furthermore, such conditions as *Bacillus coli* or proteus or pneumococcic cystitis and the various chronic staphylococcic infections, and many others, are usually amenable to inoculation treatment. But by far the most important variety of local infections hitherto treated has been that due to the bacillus of tuberculosis—important chiefly because of the extraordinary success that has been achieved by inoculating with new tuberculin, safeguarded by estimations of the opsonic index.

I have seen or known of cases representative of the following:

1. Lupus and tuberculous ulceration of the skin and subcutaneous tissues.
2. Tuberculous disease of bones and joints.
3. Tuberculous cystitis.
4. Tuberculous nephritis.
5. Tuberculous epididymitis.
6. Tuberculous peritonitis.
7. Tuberculous adenitis.
8. Tuberculous laryngitis.
9. Tuberculous iritis.
10. Early pulmonary tuberculosis.

I have treated a number of cases of localized tuberculosis during my work at the Victoria Chest Hospital, and I propose to refer briefly to some of them.

Lupus.—I have treated with success one case of dry lupus of four years' standing.

The second case of lupus was that of a girl of 16, whose lupus began when she was 9 months old. She had been scraped by the surgeons nine times, she had had x-ray treatment for two years, Finsen light for six months, and ultra-violet rays for two months. In spite of all, however, the disease steadily advanced, and when I first saw her her face and neck below her eyebrows was almost completely covered with dirty-looking patches of lupus. There was considerable ulceration, crusting, and oozing. There were several other patches on her arms and shoulders.

So extensive and so chronic was the condition that I felt that the case was almost hopeless. Much to my surprise, however, great improvement followed three months' careful inoculations with tuberculin and with staphylococcus vaccine. The latter was used to combat the secondary pus infection which I thought was chiefly responsible for the crusting and oozing.

When I last saw her a few weeks ago and after a period of six months, she was quite a different looking girl. The lupus ulceration had healed in many places and the pus infection was manifestly almost controlled. I am hopeful that ultimately we may succeed in entirely eradicating the disease.

Another rather remarkable case was that of a tuberculous iritis sent me by Mr. Lang, of Moorfields Eye Hospital, to whom I am indebted for permission to refer to the case. Inoculation was again the last resort, previous to enucleation.

The patient, a boy, had definite tuberculous nodules on both irises—two on the left and one larger one on the right. Corneal opacities and keratitis punctata considerably obscured his vision. Under inoculation with tuberculin in doses of 1-1,000 milligram we could watch the nodules slowly melt away and the opacities clear up, until now, after a period of nine months, there is but very little to be seen on either iris. There could not be, to my mind, more striking testimony of the specific efficacy of tuberculin than such a case as this where we had the foci of disease before our eyes, and could watch the changes that took place as the result of inoculation.

I have treated in a similar way one case of rather severe tuberculous cystitis, the diagnosis of which was determined by the finding of tubercle bacilli in the urine and by cystoscopic examination. After six months'

treatment by inoculation with tuberculin the frequency of micturition and pain both left him and the tubercle bacilli disappeared from his urine. Nine months subsequently he was in perfect health, and so far as I was able to tell by examination of his urine it was quite normal.

Tuberculous glands, as a rule, disappear under treatment with tuberculin. I have had two such cases. In one the glands diminished rapidly; in the other case the progress was slower, but large masses decreased greatly in size, and at the present time, in place of unsightly lumps, they are just palpable. The general experience of those who have treated cases of tuberculous glands, and also tuberculous disease of the genito-urinary system (such as cystitis and epididymitis) is that these conditions are especially amenable to inoculation with tuberculin.

Let us now consider briefly pulmonary tuberculosis. From the opsonic standpoint there are two great classes. In one of these the process is localized and the opsonic power is low; in the other the process is not strictly localized and the opsonic power fluctuates from day to day. In the first class are included most cases of early phthisis, and in the second the moderately advanced or advanced cases. I have treated seven cases in the second and more severe class with tuberculin, and although as a rule symptoms were alleviated and the condition of the patient improved, still I am sure that nothing substantial was gained by inoculation, nor do I believe that even moderately-advanced pulmonary tuberculosis will ever be controlled or cured by tuberculin.

As concerns the early cases, however, I hold strongly to the opposite opinion. I have treated six of these, and, with one exception, they were poor patients who had to earn their living by hard work and to live in unhealthy surroundings. They all showed marked improvement, as concerns such symptoms as cough, expectoration, and pain. Whether the improvement observed is permanent or not it is too early to say. One patient, however, whom I treated for three months at the Victoria Park Chest Hospital, and who showed marked and rapid improvement, had gained five pounds in weight and was quite well after the lapse of a year in spite of hard work as a domestic servant. I show the tracing of her opsonic curve, and you will see how excellently she reacted to inoculation. I may also say that the opinion I have expressed here with regard to the efficacy of new tuberculin in the treatment of early pulmonary tuberculosis, provided that the inoculations are given in proper dose and at approximate intervals, as determined by estimations of the opsonic power of the blood—I may say that this opinion is held by the great majority of investigators in England.

May I just add one word about that great class of disease in which the infection is in the blood? I shall refer first to a case of ulcerative endocarditis. This girl was treated by Captain Douglas, who isolated a streptococcus from the patient's blood and prepared therefrom a vaccine. Previous to inoculation with this vaccine antistreptococcus serum had been given an extended trial without producing any good effect. Inoculation with small doses of the vaccine, however, was followed by a marked rise in the opsonic power of the blood, and *pari passu* with this there was a fall of the temperature and a marked improvement in the clinical condition. The ultimate result was that the patient got quite well.

My friend Staff-Surgeon Reid, of the Royal Naval Hospital, Chatham, has treated 16 cases of Malta fever, and is greatly pleased with his results.

Wright has suggested (and with considerable reason) that the brilliant results of Chantamesse in the treatment of typhoid fever with his so-called antityphoid serum are not due to its possessing any antitoxic qualities, but to its effect as a vaccine.

I feel that I owe you an apology for this somewhat cursory contribution, but the short space of time at my disposal has prevented a complete or even an adequate consideration of this important subject. If, however, I have succeeded in even indicating to you what has already been achieved with this newly-forged instrument of therapy, and what are its great possibilities, I shall be more than satisfied.

THE DIGNITY OF MEDICINE: AN ABSTRACT.

By Sir DYCE DUCKWORTH, M.D., LL.D., F.R.C.P.

THE address made reference to the distinguished gentlemen who had held prominent positions in the society in the past, and to many of the eminent teachers of medical science in the Edinburgh Medical College.

It was urged that every medical practitioner should be a student of literature, as well as of medicine, and, if possible, give some attention to one or more of the modern languages. Healthy exercise and travel were also urged upon students and doctors.

He then went on to speak of his subject, "The Dignity of Medicine." He said:—

I desire rather to speak of the dignity of Medicine as evidenced by its beneficent work, as a great social power in any community, and as

* An Address before the Royal Medical Society of Edinburgh.—*Edin. Med. Jour.*, Dec., 1906.

spreading everywhere a wholesome influence. This is the particular dignity which appears to me to have declined in recent years, and largely ceased to inspire the respect which is due to it. It rests with us to recover and reconstitute this dignity.

The value and far-reaching benefits of modern medicine are not recognized as they deserve by successive British Governments, or by the majority of our municipal authorities. The proofs of this are unfortunately not far to seek. They are, indeed, lamentably notorious. The timorous, stingy, and inadequate provisions made for measures of public health, for the conduct of the insane, for the prosecution of research, and for the sanitary services generally, all bear witness to a mistrust of the high aims of Medicine, and an indifference to the unselfish and ill-rewarded labors of our profession. These humane efforts somehow fail to impress persons of enlightenment any more than those of ordinary intelligence. Not seldom, the most prudent advice is treated with suspicion, and the advisers, although experts in their subjects, receive little serious consideration or respect.

How little the public, or any British Government representing it, recognizes its duty towards medical education, is shown by the fact that it contributes nothing directly, and very little indirectly, towards the maintenance and costly equipments of any school of medicine in Britain, and is content to leave these bodies to support themselves, while their teachers forego all or most of their emoluments to keep them in efficiency. In every other country in Europe their claim is fully recognized, and met by grants of public money in acknowledgment of the debt which is due to the beneficence of Medicine and those who teach it.

Do we raise undue pretensions if we claim honor and appreciation for those who labor, almost gratuitously, to train successive generations of practitioners who are subsequently to minister for the benefit of the public?

Again, we may trace the disregard of our municipal authorities for the progress of Medicine, or the advantage of the suffering poor, in the cruel extortion of rates from our hospitals which can so ill afford to pay them.

It might have been expected that with the progress of education there would be a corresponding interest in, and a growing appreciation of, the value of medical science in all communities. The discussions of medical subjects in the public press, and other ephemeral literature, so far from enlisting intelligent sympathy with the efforts of our original thinkers and workers, rather tend to place our suffering brethren and patients in a wrong attitude towards their medical advisers, and to induce

a captious mood, which sometimes seriously hampers the successful treatment of their ailments. We notice rather, either a spirit of indifference, or a disposition to be over-critical, and, withal, a growing prevalence of credulity which for mental inanity almost equals, if it does not surpass, that of two centuries ago. These manifestations are obvious to any unprejudiced observer.

The relations between physicians and intelligent patients are hardly as satisfactory now as they were wont to be, and there is apt to be less confidence, if not, at times, an actual mistrust, on the part of patients, which assuredly does not work out to their benefit. This diminished confidence cannot invariably be set down to pretentiousness or undue assumption on the part of the medical adviser. It appears, indeed, to be a manifestation of the spirit of the age we are living in. Thus, even modern Medicine, with all its advantages, improvements and enlarged resources, stands before the public shorn, apparently, of much of the dignity and appreciation it formerly enjoyed. If my contention is admitted, how may we seek to account for it? The following explanations occur to me:—

First, with respect to ourselves. We must note the fact that the average modern physician is not, as he formerly was, a man of general scholarship and wide learning; of that class, I mean, which compelled the respect and admiration of Dr. Johnson. Happily, I could point even now to some brilliant exceptions amongst us of men who would have shed lustre on any previous period. The reasons for the decline of the particular learning I refer to are fairly obvious. Medicine, ever a "jealous mistress," has now such heavy claims on the attention and devotion of her followers, that few men can find the time, means, or energy requisite to pursue abstract studies, or indulge in refined scholarship. To attain the special knowledge and practical experience now demanded, furnishes of itself a hard task, extending over many years, tending, perhaps unfortunately, to narrow the general outlook, and to leave little time and inclination for the pursuit of literary or other bypaths of learning. Most of the universities have come to recognize these demands of modern Medicine, and altered their requirements accordingly, thereby reducing the claims of the *literæ humaniores* on their aspirants for degrees in Medicine, and replacing these by studies in science. The progress of the sciences on which our work is based is now so rapid and constant, that it has induced, or compelled, many modern physicians to pursue merely special departments of practice. We recognize the importance of experts in some of these parts of the great whole, but I am disposed to believe that we witness now an undue amount of differentiation, and an erection of specialities to a degree which is of doubtful advantage to the welfare either

of Medicine or of the public. One result of this has been, as I venture to think, to lower the dignity of Medicine and of the profession, in some measure, before the world.

Again, it may be that some members of our calling fail to commend their profession or its dignity by their inflated pretensions, or manner of life, or, perhaps, in not a few instances, by an inherent inaptitude to adapt themselves to their varied social environments.

We must not be surprised if we provoke misgivings on the part of the intelligent public as regards our level-headedness or probity, when some of us express dogmatically opinions respecting matters and habits of daily life which are in plain contradiction to all experience and common-sense. As in other professions, we have in our ranks a proportion of unwise men and so-called "faddists," and it must be that they bring obloquy upon many others besides themselves. If our art and practice are not based on common-sense and strict integrity, I am sorry for Medicine. It is not always easy to refute in public such opinions and conduct as I refer to, and most of us have sometimes to fall back on the wise dictum of Bishop Andrewes, that "he who tolerates, does not necessarily approve."

We can hardly suppose that the conditions under which so many of our brethren have to work amongst the poor in large towns tend otherwise than to detract somewhat from a due appreciation of the claims of our art for respect and appreciation. I speak with all sympathy for these of our colleagues, knowing full well with what exemplary and ill-requited labor they spend the best days of their life in the service of exacting and often ungrateful communities. If the public is inappreciative of their efforts and sacrifices, we, at all events, are able to appraise them, and to include many of these toilers amongst the worthiest members of our body.

We may be sure that anything approaching extortion, or greed of reward, must seriously impair the regard which is due to our body, and we may remember a remark of the late Dr. Matthews Duncan to the effect that "all extortioners die poor." Again, we may damage our position and usefulness by embroiling ourselves as extreme partizans in political or ecclesiastical matters, forgetting that, as physicians, we live in a higher æther, above the dust of such strife, and in a spirit of comprehensive catholicity and charity.

The best of us fully recognize our fallibility, yet we do well to regard ourselves, after strenuous preparation for our life-work, as solemnly commissioned to heal the sick, and we may at least pray and hope to be endowed with some measure of the *χαρίσματα ἰαμάτων*.

Our young aspirants in Medicine are, perhaps, not sufficiently led to entertain this particular conception of their calling. To be inspired with it would supply, as I venture to believe, a power for high motives and successful achievements. It might secure for us a worthier appreciation of our daily duties amongst our fellow-men.

Next, as regards the aspect of the public towards Medicine. The prevalence of the idea that our profession is largely available for gratuitous services, by no means adds to the respect in which it is held by the public, although as an abstract proposition this might well appear to be the case. It is true that every great physician or surgeon builds his fame primarily on the shoulders of the poor, yet it must be added that the poorest of the community are those who most often secure in our hospitals gratuitous services greater by far than can be obtained by the well-to-do in their homes. If the practitioner ventures sometimes to act upon the maxim, "*accipe dum dolet,*" the remainder of the sentence is not seldom forced upon him, "*post morbum medicus olet.*"

I have alluded to the effect on the public mind produced by the discussion of medical and scientific topics in the daily press. The premature announcements of alleged discoveries and cures, or of new methods of treatment and diet, emanating often from men quite void of all clinical experience, are certainly mischievous. These abortive results, hurried out of German laboratories, for the most part, after occupying attention for a few weeks, naturally come to nothing, yet they are apt to be reckoned to us as failures in the field of legitimate Medicine. Though most of us are innocent in these matters, our patients express surprise when we confess to ignorance of the last new vaunted method of treatment or the value of some fresh product of coal tar, of which they have acquired a knowledge from the newspapers.

As I have already remarked, the time has passed by when the physician was amongst the few scholars and learned men of his day, and was thus a personage or an outstanding man in society, and I have shown that this position was due to the fact that the scope of Physic was then much smaller, and could be compassed with less effort than is possible now. Moreover, in respect of these men, we find ourselves as much impressed by their high character as by their medical attainments, by their wisdom as well as by their knowledge. It is in this manner that we rightly venerate the memories of such men as Sydenham, Boerhaave, Harvey, or Thomas Browne, who have left behind them splendid ideals for lesser men to try and pursue in all ages. We may bear in mind what the late Sir Henry Holland (who joined this society exactly a hundred years ago) once remarked to me: "There must always be an aristocracy

in every profession." We must try and meet the pressing claims of modern Medicine as fully as we can, and yet strive to study in some other fields of mental culture. So only shall we grow robust in mind, be level-headed, and better fitted to hold our place amongst members of the other great professions.

To sum up, we find that there is an inherent dignity in Medicine as a science and as an art; that it is fraught with benefit to mankind; that its power to spread these benefits increases in every age, and gives token of special progress in the near future. We believe that its noble ideals and the unselfish efforts of its servants deserve the respect of all right-minded people, and demand their interest and sympathy. We regard those who practise Medicine as priests of the body upon whom the State may always rely for loyalty and prudence, as men who are daily in touch with all classes, and enabled, apart from all politics, by their discipline, steadfastness, and Christian humanity, to stem the tide of Socialism and other mischievous tendencies, whencesoever they may emanate.

Recognizing this dignity ourselves, we are, or ought to be, impressed by the grandeur and importance of the problems which we, as its ministers, have to solve, by the memory of all the good and great men who have preceded us in this task, and by the ideals they aspired to. To venerate and try to copy the examples set before us in the remote and recent past by members of our calling, who, by their knowledge, skill, and wisdom, have assuaged the miseries and raised the standard of health of their fellow-men, is a duty for each one of us now and henceforth. And with some pride do we point for appreciation to the heroic, untiring, and unselfish work, so often maligned, done by our pioneers in research, by our brethren every day in the midst of pestilence, and, when occasion requires, in the forefront of the line of battle. The Army Medical Service has gained more Victoria Crosses for valor in proportion to its numbers than any other branch of the army. Nor do we forget those laboring single-handed in various unexplored regions of the earth.

Surely a fair consideration of these facts amply testifies to the dignity claimed for our art, and for those who practise it. We may go calmly on our way, conscious of the glories of Medicine, if, whatever the world may think of us or our calling, we try to be worthy of the character of Sydenham, as described in Johnson's Life of him: "for his whole character was amiable; that his chief view was the benefit of mankind; and the chief motive of his actions, the will of God, whom he mentions with reverence well becoming the most enlightened and penetrating mind. He was benevolent, candid, and communicative, sincere and religious; qualities which it were happy if they could copy from him, who emulate his knowledge and imitate his methods."

You are now preparing for your future lifework, and varied, indeed, will that be. Yet, wherever you may be called to exercise your profession, you will surely often stand in need of self-respect, patience, forbearance and wisdom. The special duties of ordinary practice will call for calmness, brightness, and self-control. These are not lessons to be learned in any class-room or laboratory, but they will not fail to be at your command if you start in professional life with the highest ideals of the dignity of Medicine, and of your work in it, taking ever the high line of duty which leads always to success, securing at once the respect of your friends, and the confusion of any that may be inimical.

MEDICAL TREATMENT OF APPENDICITIS.

In his recent work on appendicitis, Oechsener emphasizes the fact that there are cases of this trouble which are not suitable for operation at a given time, and describes a number of those that are "too late for the early operation and too early for the late operation." An absolutely capable surgeon can operate successfully on many cases with satisfactory surroundings and assistants that, in the hands of one less skilful, or with conditions unsuitable, would result fatally, and it is important to recognize that many of these will recover from the attack and may be treated later.

The medicinal treatment must be correct, however, or the results will be unfavorable; the chief points in a method of treatment that the writer has found suitable in many cases are as follows:—

Absolutely nothing by mouth, not even water or fluids in any quantity, however small; the effect of food is to set up intestinal peristalsis and thus distribute throughout the abdominal cavity the organisms on the peritoneum which have escaped possibly as the result of a perforation.

In case of vomiting, gastric lavage should be used, no matter how free the emesis has been, as there is frequently irritant remnants or regurgitated material. It is advisable to spray the fauces with a 2 per cent. solution of cocaine where much gagging is experienced.

For the pain the use of leeches over the point of maximum intensity gives remarkable relief, more than can be got from fomentations. Opium may be given if absolutely unavoidable, but masks the symptoms and is often ineffective.

Rectal alimentation may be resorted to if the patient's condition demands nutrition, though, as a rule, the less given during the attack the better, but saline enemata should be given to reduce thirst. The guiding principle is rest, physical and physiological.

PROVINCE OF QUEBEC NEWS.

Conducted by MALCOLM MACKAY, B.A., M.D., Windsor Mills, Quebec.

A strong plea for increased financial support was the key-note of the annual meeting of the Montreal Maternity Hospital. Dr. Roddick, dean of the Medical Faculty of McGill, presided. The secretary reported that during the year 526 patients had been treated, an increase of 125 over the year previous, and partly on account of this increase, and partly on account of the larger premises the expenses had increased more quickly than the income, and, despite a substantial growth in the receipts, it had been found necessary to draw upon the capital account to the extent of several thousand dollars. It was hoped that in view of the fact that the institution was thrown open to all creeds and nationalities that aid might be obtained, both from the city and the Government. In conclusion, the secretary stated that instead of the building being too large—a criticism which had been made before completion—it was taxed to the utmost to provide accommodation for all the applicants.

Dr. Roddick spoke of the splendid work of the ladies who had completed the hospital and raised sufficient funds to clear it of debt, and then proceeded to point out that while things were so far satisfactory it must not be forgotten that the cost of maintenance was continually on the increase in such an institution. The total expenses of the year were $15,269. The income from patients of all grades, $6,332; from students, $282; subscriptions, $3,293; charity ball, $2,679; making a total of $12,586, which fell short of the expenditure by some $2,681. The usual amount from the students was $1,000, but at present this sum had to be carried on to the next year. For these reasons an endowment fund was necessary.

Principal Peterson and Dr. Barclay addressed the meeting to the same effect.

The medical superintendent, Dr. Little, and physician-accoucheur, Dr. Cameron, have also completed their report for the term of eleven and a half months, from October 17th, 1905, to the close of the fiscal year, September 30th, 1906. During this time there have been 448 patients admitted. The average stay after confinement of these patients was 14.6 days.

The general results are as follows:—

Maternal—Discharged in good condition, 407; transferred to other hospitals, 2; remaining in hospital, 31; died, 8; total, 448.

Infantile—Twin pregnancies, 8; total births, 403; dead born, still-born and died in hospital, 49; remaining in hospital, 19; discharged in good condition, 335. The fœtal mortalities are classed as follows: Dead born, 23; still-born, 10; premature births (children not viable), 7; congenital malformation, 2; other deaths, 9; total, 49.

Classification of Pelves—Normal, 379; contracted, 20; generally contracted, 9; rachitic, 2; flat and rachitic, 6; simple flat, 3; unmeasured (private patients), 49.

Of the complications of pregnancy the toxæmias have been most frequent, and it has been found that in albuminuria the Riva-Rocci instrument has been a valuable aid in determining the necessity for emptying the uterus. Variations as much as 80 mm. have been noted in readings before and after operation.

The treatment of eclampsia has been conservative. The convulsions were controlled by morphine and chloral until labor had progressed sufficiently to allow the uterus to be emptied with the minimum of danger to the mother.

Abortion was the next most frequent complication. There were three complete abortions and five cases in which abortion was arrested. Nine cases of incomplete abortion were completed by operation. In all cases the fingers were used to complete the emptying of the uterus, and followed by a hot saline douche and no packing.

There were eight maternal deaths during the year.

Morbidity—All cases in which the temperature at any time during the puerperium has reached 100.6 F. (38.1 C.) have been classed as morbid, and the figures based, for the sake of comparison, upon the standard suggested by the B. M. Association. Upon this standard the morbidity was 9.18, and when it is remembered that the temperatures were taken every four hours for fourteen days it will be seen that the results compare favorably with the 8.77 of the Rotunda Hospital, Dublin.

At a meeting of the medical board of the Royal Victoria Hospital, it was announced that the Governors had appointed Dr. W. F. Hamilton and Dr. C. F. Martin to carry on, conjointly, the work of the department of internal medicine, as they had done during the illness of the late Dr. James Stewart.

At the regular quarterly meeting of the Montreal General Hospital, Dr. R. P. Campbell, medical superintendent, reported that during the quarter more cases had to be refused admission than at any time for several years. The ambulance had responded to 440 calls. The revenue for the quarter was shown to be $17,549, an increase over last year of $1,731. The expenditure had amounted to $27,176, an increase of

$3,176. This could not be diminished, as it was owing to the increased cost of food and service.

Dr. F. S. Patch was appointed to succeed Dr. Campbell, as medical superintendent.

The annual report of the Medical Officer of Health has at length appeared. Dr. Laberge explains that in his statistics illegitimate and premature births have been excluded from calculations, in order to enable him to make a more logical comparison with other cities, because the greater portion of the illegitimate children do not belong to the city. The mortality calculated on this basis is 20.6 per 1,000, or .2 lower than in 1904, and a lower rate than that of Breslau, Prague, Milan, New Orleans, St. Petersburg, and Moscow, and identical with Rome. Including the illegitimate and premature births, the death rate would be 22.96 per 1,000.

The death rate of children under six months of age was 30.42 per cent., and of those under five years, the appalling figure of 56.31 per cent. The birth rate was 37.92 per 1,000, which is 13.81 per 1,000 higher than Toronto and 15 per 1,000 more than the preceding year. The births were divided as follows: French-Canadians, 44.19; other Catholics, 25.45; Protestants, 21.77.

Marriages were 10.31 per 1,000, or .5 per 1,000 more than last year, as follows: French-Canadians, 9.99 per 1,000; other Catholics, 8.30; Protestants, 14.30 per 1,000.

The death statistics were: French-Canadians, 27.05 per 1,000; other Catholics, 20.42; Protestants, 14.30.

At the Montreal Medico-Chirurgical Society the following papers were read: Cervical rib, Dr. Russel; Some Clinical Considerations in respect of Pelvic Tuberculosis, Dr. Goodall; Intermittent Hepatic Fever, Dr. Garrow; and Two Cases of Cæsarian Section, Dr. Smith.

Dr. A. McPhedran paid a visit to Montreal a short time ago on behalf of the Canadian Medical Association. A local committee was appointed, consisting of Drs. Shepherd, Blackader, Lachapelle, England, Gardner, Roddick, Armstrong, Hamilton, Shirres, St. Jacques, Harwood, De Martigny, Garrow, Reddy, Boulet, Monod, Mercier, Villeneuve, Aubrey, Hingston, Birkett and Mackenzie.

Quebec has now the following law in operation: "Whoever shall spit on the sidewalks of streets, roads and public places, or on the floor of any public building or vehicle, or on the deck of any public boat, shall be liable to a fine not exceeding five dollars for the first offence, and to a fine not exceeding ten dollars for every subsequent offence."

CURRENT MEDICAL LITERATURE

MEDICINE.

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

CREOSOTE.

In the *Medical Age,* October 10th, there is an article by Skinner on the use of Creosote. This drug is a phenol mixture of which 90 per cent. is guaiacol, and it may be administered in a variety of forms, *e.g.*, guaiacol, guaiacol carbonate, duotal, creosote carbonate, creosotal, or benzosol. It is the latter that the writer favors, as causing the least disturbance. In actions and properties these drugs resemble carbolic acid, which is the phenyl alcohol.

When given in small doses it is not likely to cause irritation, and patients soon become accustomed to it and can take large amounts without trouble. A favorite mixture when given for intestinal disturbance is composed of creosote, tincture of capsicum, tincture of nux vomica, and elixir of calisaya, given preferably at meal times. Benzosol in five-grain capsules every four hours has a good effect in dysentery. It is insoluble in the stomach, and is broken up in the intestine into guaiacol and benzoic acid.

SOME GENERAL POINTS WITH REGARD TO TUBERCULOSIS.

In the *Medical Times,* November, 1906, Berger treats this subject from the standpoint of the general practitioner. Two processes are taking the place in the patient suffering from his disease, namely, changes of mental temperament probably due to the action of the toxins; and modification of character, due to mechanical interference with the cerebral functions following the deposit of tubercle within or on the brain. The characteristic feature of the general psychology of the tuberculosis is instability, feverish activity followed by periods of intense depression, phases of despair giving place to plans for the future, indulgence in hypochondria, intense application to work, sensual indulgence, exaggerated idealism, and a tendency to sentimentality and generalization. During the stage of invasion, a certain tendency to refinement is noticeable, both physical and mental, and the artistic and imaginative faculties are often stimulated to unprecedented feats, doomed but too often to failure by abrupt collapse of physical energy, while the tendency to take a sanguine view of things increases as the disease advances. These facts must be kept in mind by the physician, as they afford a clue to many peculiar actions and show the necessity of wise advice as to the mode of life and the plans of the patient.

KOPLIK SPOTS.

In the *Medical Record,* October 20th, there is an article by Langworthy on the determination of these spots and their description. The originator of this means of diagnosis, Koplik, describes them in the following terms: "On looking at the mucous membrane lining the cheeks (buccal) in strong sunlight a very characteristic eruption of irregular stellate or round rose-colored spots is seen. In the winter at each spot there is a bluish-white speck. This appearance of a bluish-white speck on a rose-colored background is pathognomonic of the onset of measles. The speck is sometimes so minute that strong light is necessary to render it visible. The number of specks at the outset may be less than half a dozen. In a short time they become more numerous and the rose-colored spots become confluent, so that there are diffusely red patches of buccal mucous membrane studded with bluish-white specks. They are seen on the inner surface of the lips and gums."

The eruption disappears when the exanthema of the body becomes well developed, sometimes the minute spots coalesce to form larger ones. Aphthous stomatitis, which is sometimes mistaken for the spots, is readily distinguished by the fact that the small ulcerated areas are situated on normal mucous membrane, are more or less yellowish-white in color, and are always discrete. Irregular teeth or decaying food may produce small white blemishes on the mucous membrane, but care and their position will preclude any error. They serve as a warning sign, and may precede the rash by a week, affording opportunity for isolation and the prevention of the spread of measles to other children.

ANGINA PECTORIS.

In the *Medical Record,* October 20th, there is an article by Francis Hare on this subject, from the standpoint of its mechanism and treatment. He starts from the fundamental physiological fact that during life the general or aortic blood pressure tends to be maintained at a uniform level, but as countless variations of calibre are occurring in all parts of the vascular system, there must be compensation by vaso-dilation or the opposite in some other part. Vascular distension may be physiological, *e.g.*, when one is cold, and shivering is caused, there is vascular distension of the muscular area corresponding to the cutaneous constriction. It is likewise a common pathological condition, with signs and symptoms varying as the locality and conditions vary. If the tissue is vascular and supplied with nerves, but prevented from expansion by unyielding walls, there will be pain from nerve pressure; if expansion is free, there will be

signs of enlargement. Elsewhere the writer has stated that the pain of migraine and the dyspnœa of asthma are due to vascular distension, which, in both cases, depends on a vaso-dilation more or less localized, and vaso-constriction more or less generalized.

The writer calls attention to a similarity between migraine and asthma on the one hand, and angina pectoris on the other. They are paroxysmal affections that are prone to alternate, not only in families but in individuals, and cases have been observed where an attack partook of the characters of more than one of these neuroses. They conform in several of their objective signs, and, in all, there is an increase in peripheral vaso-constriction, the small pulse of migraine having been noted by Brunton, that of asthma by Salter. The corresponding vaso-dilation and consequent vascular distension in migraine and asthma have been noted by many writers; but, in the case of angina, no one has stated this view, but reasoning from analogy at least we may say that the pain of angina depends upon vascular distension in the mediastinum, which vascular distension is the result of a more or less localized vaso-dilatation and of a more or less generalized vaso-constriction.

This hypothesis seems to suit the conditions, and to explain the pain and its radiations; the coronary arteries are relatively large, the heart muscle is peculiarly close in texture, and the capillaries numerous and closely arranged. Swelling to any extent would be precluded, tension woud be great and cause pressure on nerve structures; the connection of the nerve plexuses would explain the pain-radiation. The factors of the mediastinal vascular distensions are:—

1. The localized vaso-dilatation. This, in all probability, affects chiefly the coronaries, as it has been demonstrated that they lack vaso-motor nerves, they will be dilated through the rise of general blood pressure due to the generalized peripheral vaso-constriction. Atheroma of the coronaries is a lesion found post-mortem in this disease, but there is no proof that this is an antecedent condition, and is likely a consequence.

2. The generalized peripheral vaso-constriction. The so-called functional attacks, described by Nothnagel, were definitely traceable to external cold, and numbness, stiffness, pallor were the first symptoms, they were relieved by hot drinks, friction, etc.; digitalis, a drug which increases peripheral vaso-constriction, acts injuriously in cases of angina and has been known to induce an attack. Physical exercise has a two-fold effect, causing a rise of blood pressure at first and a fall after perhaps fifteen minutes; Fagge notes that in anginal patients there will be pain at the beginning of a walk which will pull them up, and this will disappear in a short time and permit them to go on for some time.

3. The work done by the left ventricle. This must be an essential factor in the maintenance of vascular distension wherever situated. Whatever reduces the work will reduce the distension, and the work done may be reduced in many ways, as by vague inhibition of the heart-beat. This occurs in many cases of angina, where the inhibition may be due to the pain. Cases are not rare where syncope and angina alternate, and there are some in which syncope supervenes during a paroxysm of angina, or it is contemporaneous with the cessation of the pain. In all such cases it is reasonable to believe that the cardiac inhibition, responsible for the cerebral anæmia of syncope, relieves the mediastinal vascular distension and so terminates the pain of the anginal seizure. Cardiac inhibition occurs to a marked degree in nausea and vomiting, and it is a well-known fact that an emetic will give relief in angina and other paroxysmal neuroses. The work done by the heart is permanently reduced in the cardiac failure of advanced cardiac disease, and Oliver has pointed out that patients, long sufferers from pericordial pain, get relief with cardiac dilatation.

4. The integrity of the mitral valve. This factor is essential for the development and maintenance of mediastinal vascular distension. With a leaking valve, there would be substituted a vascular distension of the lungs, and Broadbent has pointed out that "the supervention of mitral insufficiency may greatly diminish the liability to attacks in cases of angina," and the same is true of asthma.

The conclusion is that the ordinary anginal seizure conforms in its mechanism to many other paroxysmal affections, such as migraine and asthma, which we may call vaso-motor neuroses. In all there is more or less rapidly developing peripheral vaso-constriction, and in all there is a correlative area of vaso-dilatation; what determines the localization requires further elucidation. The relation of the angina to the lesions so frequently found post-mortem must then be considered as a causal one rather than as a consequence. They are, indeed, just the lesions that would be expected to result from long-continued strain, as chronic valvulitis, atheroma of the coronaries and the aorta.

Treatment. The treatment will be (1) that of the attack, which is well known, and (2) that which will tend to prevent the condition, which will be the prevention of exaggerated peripheral vaso-constriction. There are two features here to consider: first, the hæmic, which concerns the blood composition; and second, the vasomotor. Uric acid has been regarded as the determining factor, and Haig has advised the use of a purin-free diet, and with some success; the writer regards the blood condition as one of so-called hyperpyremia, or an excess of carbonaceous or fuel substance in the blood, and with this view Chittenden agrees. The

treatment would then be the reduction of this class of food. In either case, carefully graduated exercise must be added. As to the vasomotor treatment, it is only recently that Francis Hare introduced the treatment of cauterization of the septum nasi in cases of asthma, and with marked and enduring success. The analogy induced the writer to suggest a similar treatment to Dr. Robertson, of Brisbane, and this gentleman, in his recent address as president of the Queensland branch of the British Medical Association, reported thirteen cases of angina pectoris treated in this way. He says: "In no case has there been no result, and improvement has generally been more rapid than in the other neuroses." In some, the beneficial results were very striking, amounting to practical cures. Dr. Francis Hare has also had a number of very successful cases, the results of which he intends to publish shortly.

THE SEX CYCLE OF THE GERM PLASM.

In the *Medical Record,* Thomas E. Reed has discussed for several numbers the question of sex determination and has examined at length the various theories that have been advanced. In the November number he gives a summary of the results of this review as follows: —

What determines the sex has been the subject of investigation since the time of Hippocrates. Many of the older theories are entirely discredited by modern science. The view that the spermatozoön has any influence in the determination of sex has long been abandoned. It is now generally conceded that its function is only to originate the amphimixis. This view is held by Beard, Weismann and many others, while we are not acquainted with the papers of any biologist who holds the contrary.

Sex is therefore a property or function of the ovum. Recognition of the anabolic character of female and the katabolic character of male organisms has led to the hope that sex might be controlled by regulation of the nutrition of the female parent. Experiments have been conducted with this in mind. Many results were negative. Others would seem to show that abundant feeding produces females. No results have followed attempts to determine the sex in the higher orders of life by means of this method.

A general equality which nature maintains between the sexes has been noted. Many theories of sex determination do not satisfactorily account for this. Starkweather takes this into consideration, but fails to meet the objection that his factors of superiority are relatively too indefinite. His theory also fails to account for twins of opposite sex.

Sex cannot be explained in terms of heredity alone. The idea, therefore, that certain parents tend to beget one or other sex is to be distrusted.

Even were it admitted that the sex might be, to a certain extent, an inherited condition, modern views on heredity would forbid us to look for any method of controlling it, because sex, while in common with other inherited characteristics, is a function or property of the germ plasm, the inheritance of any acquired characteristics is, after all, very doubtful. If they are ever inherited it is only in special or rare instances or to a slight degree.

Therefore, all theories which would seek to control the sex by altering the physical condition of one or both of the parents may be dismissed.

In no ova which normally undergo fertilization has sex been detected prior to fertilization, while on the other hand embryologists have traced the existence of sex in the embryo back to almost the time of fertilization. Sex, therefore, is determined at or near this time.

However, since fertilization constitutes the crisis in the life of any particular ovum, it is not unreasonable to suppose that the sex of the future embryo is decided at exactly the moment of this crisis.

Shultz, as long ago as 1854, showed that irrespective of the number of individuals, there could arise from one egg but one sex.

Any egg, whether single or double, can be fertilized by but one spermatozoön, and therefore can be fertilized but once.

Conjoined twins, of whose origin from the same egg there can be no doubt, are always of the same sex. But sometimes, notwithstanding the fact that they must have originated from a simultaneous fertilization, they differ remarkably in other characteristics.

From the wide distribution of tertiary sexual characters of one sex among individuals of the opposite sex; from the latent and rudimentary existence of secondary sexual characters of one sex in the opposite sex; from the marked analogy there is existing between the sexual organs proper of the two sexes, and, finally, from the fact that peculiarities of secondary sexual characters may be inherited from a grandparent through a parent of the opposite sex, we know that the male organism contains all the elements of the female and the female all the elements of the male. One is therefore justified in concluding that every ovum is primarily hermaphroditic, and the view that there are two kinds of ova, male and female, may be rejected.

Now to group our phenomena: It is possible to have a double hermaphroditic ovum, capable of but one impregnation and capable of impregnation by but one sparmatozoön, fertilized with a resultant de-

velopment of two individuals, which, originating from two divisions within the same egg, fertilized at the same time, and acquiring sex distinction at the same time, may differ in other characteristics, but are always and necessarily of the same sex. There is but one conclusion to be drawn from this: Sex is determined at and by the time of impregnation.

It has been shown that sex cannot be determined by the time of impregnation with reference to the month, menstrual or lunar, the year, season, week, day, or hour. Neither can it be determined by the time with reference to any somatic change within the parent organism. The lunar day, together with a possible sex alternation in the ovum alone remain to be considered.

While further reasons for our belief that this is the true solution to the problem will be stated in the next section of this paper, this will be concluded by the advancement of the hypothesis that sex is determined by the time of fertilization of the ovum with reference to a regular sex alternation (analogous to the katabolic and anabolic fluctuation in multicellular organisms) in the germ plasm itself. This rhythm is synchronous with the shortest of natural cycles, one complete cell cycle lasting about twelve hours, and, while not depending upon or perhaps exactly coincident with, at least corresponding to the upper and lower transit of the moon in somewhat the same manner as do the tides.

THE PATHOGENESIS AND THERAPEUTICS OF CANCER.

In the *Medical World,* October 13, Dr. Robert Bell, of London, discusses this question from the clinical and scientific points of view. He calls attention to the tendency to make a diagnosis of cancer because a tumor appears in a site where cancer is known to be a frequent factor and warns against faulty methods of diagnosis or the unnecessary use of surgery for this purpose, while emphasizing the importance of bold and radical treatment once the diagnosis is made. Assuming that it is now generally accepted that the parasitic theory cannot be maintained, he advises that attention be directed to the pathogenic conditions which commonly antedate the malady; it is a disease of civilized life, is unknown in savages and in wild animals, although the analogy between the condition in the human and other species in tame animals is not very fully established, at least from the clinical standpoint. Animals do not lose weight when affected by these tumors, and they are only produced when fed on some material differing materially from their ordinary diet.

The inference is that the mode of life plays a most important role in the production of cancer; it is a disease beyond any specific agent from without, we must search for the agent within the body, and endeavor to ascertain in what consists the influences which so interfere with normal cell metabolism as to enable certain cells to assume a character altogether at variance with that of the normally conducted cells from which they have sprung. With this change they would appear to have disassociated themselves and severed their allegiance to those physiological laws which regulate the metabolic phenomena characteristic of normal cell-life. Ultimately they develop a morbid influence which is inimical to the integrity of the tissue from which they emanate, they become a law unto themselves and establish a potency quite foreign to that of healthy cells. Their instincts would seem to have undergone a complete change, for now they begin to devour the normal cells and to replace them by their own at a rapid rate, extending their sphere of influence, establishing new centres of disease and contaminating the blood by the poisonous juices which they throw off.

In consideration of the pathogenesis of the disease the writer notes that modern life is distinguished by two features; overeating in view of the limited amount of exercise performed by the ordinary person, with a consequent overloading of the colon with poison-producing substances; and the prevalence of constipation, by which this mass is retained within the economy, instead of being soon evacuated. The vitiation of the blood that ensues is accompanied by an interference with normal cell activity and a reduction of normal cell potency that makes for morbidity. This is seen in the condition of the thyroid gland, whose profound influence on body processes is now appreciated. It is a notable fact that in cancer the thyroid is frequently found to be decreased in size, even atrophied, and it would not seem an unfounded hypothesis that this gland represents the loss of control which results in the possibility of cancer growth.

It has been demonstrated that the thyroid exerts an influence inhibitive upon this toxicity, and, from this fact, the writer deduces the following line of treatment: (1) Insist upon a complete daily evacuation; (2) restrict the diet to the actual requirements of the body and the capabilities of the digestive organs; (3) supplement the defective action of the thyroid by the administration of the gland of healthy animals; (4) as saccharomyces are invariably present in the blood of cancer subjects, and as these act injuriously in inducing fermentive changes upon the absorbed enterotoxins, they should be destroyed by giving salicylates.

HEREDITARY CHOREA.

In the *Medical Record* for November 17th, King describes a disease which is interesting as well from its symptomatology as from its comparative rarity. Discovered apparently in 1841 by Waters, it seems to have attracted little attention for many years, though descriptions had been given from time to time. At present the number of cases reported probably does not exceed one hundred and fifty, and the great majority of these have been found in Long Island or adjacent parts, although cases have been seen in Ohio, Illinois, Iowa, some of the Southern and Western States and in Canada, and in Germany, Austria, France and England. The remarkable number of cases in the vicinity of Long Island and the hereditary character led to the theory that it was a disease of one stock; and Dr. Jelliffe has shown evidence in support of this to a remarkable degree, but the presence of a case in a full-blooded negro disparages the hypothesis. In the etiology the only established factor is heredity. Without it the diagnosis would be unjustifiable. It has been known in some families for three generations, and has been known to skip a generation and appear in the next. Age is a factor, the greater number of cases devolving between 30 and 50. The question of sex is not determined, though of the writer's cases 13 out of 17 were males. Functional conditions, as rheumatism, hysteria, etc., have been cited, but the evidence is unconclusive, a lowered state of vitality is frequently antecedent to the appearance of the signs.

The pathology in many cases shows no gross or microscopical lesions, but many others have shown the presence of organic lesions in relation to the motor area as hæmatoma, pachymeningitis, etc., but they are variable and, in a disease of such duration, it would be hard on the evidence to argue any causal relation, though vascular sclerosis seems to be common. The description of the condition is so clear and concise as given by the writer that we transcribe as follows :—

The clinical history of the disease shows definite characteristics at almost every stage, the variations being slight as compared with other chronic maladies. Beginning in a person about thirty-five or forty years of age, one of whose parents has been likewise affected, it first manifests itself by irregular twitchings of the muscles of the hands or face, which slowly increase in severity, in frequency, and in extent of distribution. These twitchings are at first controllable for a short time by an effort of the will, but that same effort augments their severity after they have passed beyond restraint. During sleep they cease entirely, while in repose they are somewhat less violent, the only author recording a different

observation that I have seen being Mackay, in a French-Canadian family in Montreal. The movements differ materially from those of ordinary chorea or of tremor, in that they are irregular, are coarse in nature, and increase very slowly year by year. Beginning almost always in the hands and arms, they first manifest themselves by a restlessness or sudden movement of the part which at first may be thought to be due to nervousness or to habit. But as they slowly increase, the face, lower limbs, and body become successively involved, and finally, after some years, they reach a stage where speech becomes indistinct and broken, locomotion uncertain and attended by falls, mastication and deglutition difficult, and the use of the hands for co-ordinate and exact movements impossible.

Possibly an attempt to describe the character of the movements may not be without profit. In the face or hands a movement consists of a sudden and more or less violent contraction of a muscle or group of muscles which is momentary in time and followed by complete relaxation. This is succeeded almost immediately by an equally strong contraction in a distant muscle or group, or perhaps simultaneously in two or more widely separated parts, as, for instance, in the face and one hand, or in a hand and both hips. The movements attack the flexor muscles almost exclusively, are painless, and extend over a far greater range than those of ordinary chorea, differing also from athetosis in that the contractions begin and end suddenly and are not wavy or attended by rigidity. The movements in the hand may affect the fingers only, or, as is more characteristic, the whole hand may be flexed at the wrist and drawn strongly to the ulnar side.

The movements of the face, when they are present, generally affect the muscles of the inferior and intermaxillary regions principally, so that the corner of the mouth is jerked downward and outward. This may occur on both sides, but if so, the contractions are much stronger on one side than the other and may give rise to a smacking sound of the lips, as in one case of mine. Next to the muscles of the mouth, probably the one most often affected is the frontalis, by which the eyebrows are raised and the forehead wrinkled, and after that the muscles which depress the lower jaw and open the mouth. But the muscles of the face are by no means always attacked to the same degree and may remain entirely free, as in a probable case I saw through the courtesy of Professor Krauss at the Erie County Hospital. This patient was a male about fifty years of age and presented many of the characteristic symptoms of the disease, but a family history could not be obtained, either to confirm or confute the diagnosis, as the records were silent on that point, and the patient himself was deaf and dumb.

The general health of the patient appears for years to be but little interfered with, barring accidental sickness, the appetite being good or ravenous, digestion normal, bowels regular or, perhaps, slightly constipated, sleep natural, and the menses often typical of health. There is no marked emaciation or evidence of circulatory or metabolic disturbance. The features assume a dull, listless expression, but the mind remains clear and free from disease until a late stage as a rule; but finally marked mental unsoundness develops, which generally takes the form of a slow, progressive dementia. Burr, however, has observed a case in which marked symptoms of acute excitation developed with delusions of grandeur and motor weakness, which continued for two or three months and then disappeared, leaving only some minor delusions. Most authors have noted a suicidal tendency in their patients or a history of suicidal attempts in their ancestors, but it is a curious circumstance that most of these efforts at self-destruction have failed. These attempts have, for the greater part, occurred at a time when the mental change was first commencing and the patient could look forward to a detestable and hopeless existence. Later, the mind becomes so blunted as to make them oblivious to appearances or the niceties of society.

There is nothing to show that patients with hereditary chorea are more liable to other diseases than are those not so afflicted. Hysteria, neura henia, epilepsy, and other nervous diseases are rare, and if they do occur must be regarded as accidental complications and not as essential parts of the disease. Sleep, as a rule, is good. Neuralgia and headaches, at least of a severe form, are not common, and my patients have all been very dull to the sensation of pain, bearing without complaint such minor operations as the extraction of teeth, the opening of abscesses, or the stitching of wounds. Even the pains of pleurisy and of fractured bone has been insignificant as compared with other patients; but I regret I have never had opportunity to observe the pains of labor in a patient with this disease.

The sexual function seems to be unaffected and some have had large families. Circulatory and respiratory troubles are not more common in these patients than in others, and cerebral hæmorrhage is not a common cause of death, this following in most cases exhaustion. The duration of the affection is usually 20 to 25 years, in some shorter, but in none is the course that of an acute disease. Heredity must determine the differentiation from the ordinary chorea and allied conditions. There is no effective treatment known, not a single case of cure is known, and it is difficult even to relieve. The intercurrent symptoms are treated as they arise, hygienic conditions assured, and advice against marriage should be given.

SURGERY.

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

BURNS.

The treatment of Burns, according to Prager, in the *N. Y. Med. Jour.*, may be divided into the local and general treatment.

Local Treatment. The indications are: 1. To overcome the shock and to relieve the pain. 2. To guard against congestion and inflammation of internal organs. 3. To prevent sepsis from the absorption of the toxins of the sloughing tissue. 4. To counteract the exhaustion incident to such suppuration. In the treatment of burns of the first degree the author recommends some application which will tend to soothe the injured part. For this purpose olive oil or linimentum calcis (Carron oil, a mixture of linseed oil and lime water), serves a good purpose.

The best and simplest remedy, according to Prager, in the treatment of burns of the first degree is powdered sodium bicarbonate dusted freely over the surface of the wound. It is well to exclude the air in all cases by the application of a protective dressing.

As an emergency dressing in burns of even the second degree, ordinary molasses is recommended, which is best applied by soaking pieces of blotting-paper one-half inch by two inches in the molasses and laying them evenly on the surface. They must overlap each other, and when sufficiently dry they serve as an excellent covering. Sodium bicarbonate may be added to this dressing by dusting over the surface after the dressing has been applied. The sugar in the molasses, according to Prager, serves as an excellent antiseptic. When vesication is present with inflammation of the skin with the formation of bullæ, strict asepsis must be employed. These vesicles must be punctured at the base, drained of their contents as the serum is irritating in character. The cuticle, however, should not be removed, as it serves as a protection. The area should be thoroughly cleansed with a bichlorid solution from 1-10,000 to 1-20,000, and after such cleansing it should be covered by sterilized rubber tissue over which gauze and bandage are applied. The dressing should be changed only once in every two or three days unless the odor is distinct or the discharge great.

When the area is extensive and is of the second or third degree, the author commends very highly the value of a continuous hot bath at a temperature of 100 F., and kept at such temperature for several days. It gives almost instant relief to the sufferer by protecting the surface from the air and prevents decomposition.

In the treatment of lesions of the third degree which are local in extent, the area should first be thoroughly disinfected with a 1-2,000 bichlorid solution or a 1-40 carbolic acid solution, and at the same time all the necrosed tissue should be removed. This procedure, according to this author, will have to be carried out under an anæsthetic. An antiseptic powder in burns of such a degree is preferable to ointments as a dressing, as it has greater power to prevent suppuration.

For this purpose he recommends the following combination:

℞. Iodoformi ..... ʒi 4
Acidi borici ..... ʒvii 28

M. Sig.: Apply locally over the area involved.

This powder can not be used over extensive surfaces for fear of iodoform poisoning, especially in cases of young children. In addition, the author recommends zinc oxid or bismuth as of value as a local dusting powder.

In the treatment of x-ray burns the lesion must be kept clean, and all dressings must be thoroughly aseptic, as the weakened condition of the adjoining areas renders these cases much more susceptible to infection. He recommends in these cases an application of a 1 per cent. watery solution of picric acid, which lessens the pain and assists in healing. In severer cases the treatment should be along the lines of ordinary burns.

Leweson, in the same periodical, recommends the ordinary lead and opium lotion as a local application in burns of the first degree. In more extensive burns he recommends a solution of aluminum acetate which is very cooling, antiseptic and astringent in its action. This may be used in strength of 6 per cent., applied on gauze and kept moist in order to prevent the gauze from adhering. After applying this solution for 24 hours a powder should replace it as a dressing. For this purpose Leweson recommends the following:

℞. Zinci oxidi ..... ʒii 8
Bismuthi subnit. ..... ʒiv 15
Lycopodii ..... ʒi 4

M. Sig.: To be applied locally freely.

In burns of the second degree he recommends the linimentum calcis (Carron oil), and after from 24 to 36 hours changing to the boric acid ointment, which should be applied until the upper layer is repaired, to be followed by the application of the foregoing dusting powder or bismuth subgallate.

In burns of the third degree the wounds must be treated as any ordinary wounds. Wet dressings of saturated solution of boric acid are useful. If sloughing is present the wounds should be trimmed, and if

stimulation is necessary to hasten healing, the author recommends a dressing of balsam of Peru around the edges as follows:

℞. Balsami Peruviani ..... ℥i 4
Olei ricini ..... ℥v 20

M. Sig.: Apply locally along the edges of the burns.

If the wounds are clean he recommends the use of silver foil, covering the area completely and in some cases skin grafting must be resorted to.

T. P. Dale, in the same periodical, states that the important things to keep in mind in the treatment of burns are: 1, The relief of pain; 2, absolute cleanliness; 3, the promotion of healing.

In severe cases a hypodermic of morphin may be necessary to relieve the pain, and after the initial shock the following combination will, as a rule, be sufficient to give relief:

℞. Chloralis hydratis ..... gr. x | 65
Sodii bromidi ..... gr. xx-xxx 1 | 30-2

M. Sig.: To be given at one dose and repeated every three hours in water until relief is obtained.

In some cases a general anæsthetic may have to be given on account of the pain. Usually a hypodermic injection of morphin administered 15 minutes before the time for dressing will suffice.

In order to preserve cleanliness moist applications must be applied. The following is recommended for this purpose, the aluminum acetate solution made up as follows:

℞. Plumbi acetatis ..... ℥ss 15
Aquæ q. s.

And:

℞. Alumini sulph ..... ℥i 4
Aquæ q. s.

M. and add to the lead solution. Sig.: Pour off the solution from the precipitate and apply to the burn on antiseptic dressings.

A saturated solution of boric acid may be substituted for the foregoing, applied lukewarm, and keeping the dressings constantly moist.

Dale recommends that the wound be cleansed daily with a 50 per cent. solution of hydrogen peroxid to aid in the removal of any secretions, to be followed by the application of moist dressings.

To promote healing, when the granular surfaces are fairly healthy he recommends an astringent ointment as follows:

℞. Zinci oxidi ..... ℥i 4
Peirolati liq. q. s. ad ..... ℥i 30

M. Fiat unguentum. Sig.: Apply locally to the part involved.

The following combination is also recommended as a similar dressing:

℞. Ichthyoli ..... ℥i 4
Zinci oxidi
Petrolati liq., aa ..... ℥iv 15

M. Fiat unguentum. Sig.: Apply locally.

Constitutional Treatment. In severe cases Prager states that stimulants may have to be administered, such as strychnine gr. 1/30, every four hours, or alcohol and ether given hypodermically. Leweson advises aromatic spirits of ammonia; alcohol in some form; strong coffee; attention to elimination, and the application of heat.—(*Jour. A. M. A.*, 17th Nov., 1906.)

THE RESULTS OF OPERATIVE TREATMENT OF VARICOSE VEINS OF THE LEG BY THE METHODS OF TRENDELENBURG AND SCHEDE.

In the *Columbus Medical Journal*, November, 1906, Robert T. Miller, Jr., of the Johns Hopkins Hospital, writes on the above subject and reaches the following conclusions:—

1. Varicose veins of the leg are not an incident of senility; the condition is rather a disease of young and middle-aged individuals, over one-third of the cases appearing before the 30th year and two-thirds before the 40th year.

2. From an etiological standpoint, there are two classes, viz., inflammatory and non-inflammatory. The inflammatory group includes about one-third of all cases, phlebitis occurring as a complication or sequel of pregnancy, post-operative convalescence or an acute infection, among which typhoid fever is the most frequent. The pathology of the non-inflammatory group is obscure.

3. In 128 cases the right and left legs are affected in about equal proportion; over one-half of the cases are bilateral.

4. Trendelenburg's operation cured 78 per cent. in a series of 41 cases; this is about the result generally reported. In the first four post-operative years 89 per cent. were cured, in the 5th-8th post-operative years but 63 per cent. were cured; the tendency to recurrence of symptoms increases as the post-operative interval lengthens.

5 Schede's operation cured 33 per cent. in a series of 9 cases. Of two cases, 2 years or less since operation, both were cured; of 7 cases, more than 2 years since operation, but one was cured. The tendency to recurrence of symptoms as the post-operative interval lengthens is much greater after a Schede than after a Trendelenburg operation.

6. Division between ligatures of the saphenous vein does not ensure permanent occlusion. The venous stream may be re-established in three ways, viz., dilatation of anastomoses around the point of division (two cases), formation of varices in the scar (three cases), or end-to-end anastomosis of the ligated stumps (three cases). The Schede operation is followed particularly by anastomosis of ligated stumps; of six cases examined three showed an intact saphenous vein running directly through the scar.

7. Functional restoration of the saphenous vein may be, but is not always, accompanied by recurrence of symptoms.

8. Resecton of 8 cm. or more of the saphenous vein at the saphenous opening made through a generous transverse skin incision is to be preferred to simple division of the vein.

9. Post-operative pulmonary embolism is rare, but has occurred between the fourth and thirteenth days. The onset is marked by sudden dyspnœa, cyanosis, tachycardia and signs of collapse, accompanied by rise in temperature; the symptoms may subside rapidly, may persist with the physical signs of pulmonary infarct, or may be followed immediately by sudden exitus.

A NEW SPLINT FOR FRACTURES OF THE HUMERUS.

In the *International Journal of Surgery*, Sept. 1906, G. G. Marshall describes a splint which consists of two thin pieces of board fastened to each other at right angles by their long edges. One, longer than the other, is 15 inches long by 3¼ inches wide; the other is 11 inches long by 3 inches wide. In the angle at the lower end is fitted a square piece of material with a slot cut through it near its outer end. Surmounting the upper end of the shorter side of the splint is fastened a crutch piece to fit the axilla. This piece is also curved forward so that the end will not crowd on to the chest, as the arm rests across the body. When the splint is in position the crutch piece fits closely in the axilla, and the longer side supports the posterior aspect of the arm, while the shorter one supports the inside of the arm. The square at the lower end of the splint extends from two to four inches below the elbow, according to the length of the arm. Strips of adhesive plaster are applied, one to the inside and one to the outside of the arm, extending up to the point of fracture. At the elbow the strips are folded on themselves so as to cover their adhesive surfaces, and the inner one passed through a slit in the lower end of the piece; the outer strip is passed through a similar slit in the square piece, the two ends drawn tightly and tied. This gives strong extension in the line of the shaft of the humerus. This splint is of special advantage in compound fractures of the humerus as the dressings may be removed without weakening the extension.

GYNÆCOLOGY.

Under the charge of S. M. HAY, M.D., C.M., Gynæcologist Toronto Western Hospital, and Consulting Surgeon Toronto Orthopedic Hospital.

PRESERVATION OF THE VAULT OF THE VAGINA IN PELVIC OPERATIONS.

Dr. A. Vander Veer of Albany, New York, said that one could divide the life of a female into three periods—through puberty; through marriage and the birth of her first child; and through the menopause. At the period of puberty we had to consider carefully the functions of the ovaries and malpositions of the uterus more particularly. At the time of her first confinement we had to consider the possible lesions that may present, notwithstanding the most earnest care on the part of the obstetrician. We should consider carefully the possible morbific changes that come at the time of the menopause.

The paper dealt more especially with those lesions where, in an operation, the vault of the vagina is encroached upon. In malignant growth the surgeon was in doubt, in this region of the body, as to how much normal tisue should be preserved. He was led to emphasize the axiom of practice, to preserve normal tissues as much as possible, and under no circumstance to remove healthy organs. He would make but one exception to this, namely, the appendix, when found anatomically or pathologically incorrect.

Vaginal hysterectomy for varied lesions of the uterus required separate consideration for each individual case, with due regard to post-operative contractures, and disturbance of function of other near-by organs. This was seen at times in a constant dragging pain, due to disturbance of the sigmoid flexure, and interference with the rich blood and nerve supply of the pelvic organs. Most commonly was it expressed in bladder or rectal conditions.

In abdominal operations there was a difference in the nature of the procedure as between a malignant or non-malignant condition. Whatever method was adopted, he believed the one important object in view should be to bring the stump well up in position, that it might hold the vault and fornix of the vagina, prevent sagging, and especially the dragging upon any of the nerve trunks or large vessels. The author had found that the old extra-peritoneal method of hysterectomy had preserved the vault of the vagina very acceptably, there being less complaint of pressure of the cervix downward upon the rectum, or against the tip of the coccyx.

In extensive operations the surgeon should not promise too much, and should remember that nerve lesions followed with accompanying symptoms require great patience on the part of the physician and surgeon as well as of the patient, to overcome.—*Surgery, Gynæcology, Obstetrics,* Nov., 1906.

A CLINICAL EXPERIENCE OF ECTOPIC PREGNANCY AND ALLIED CONDITIONS.

F. W. N. Haultain, M.D., F.R.C.P., writes:—

"There is no more perfect clinical picture than that portrayed by a typical case of ectopic pregnancy. The diagnosis hardly requires the detection of physical signs," "but in other cases the diagnosis is not only difficult, but almost impossible."

The author gives four characteristic symptoms of ectopic pregnancy before rupture.

1. A variable period of amenorrhœa.
2. Irregular uterine hæmorrhage.
3. Pelvic pain and discomfort.
4. Shedding of uterine decidua.

The association of these forms a typical case.

He reports 23 cases with the following history: Amenorrhœa was absent in 5; irregular hæmorrhage was absent in 4; pelvic pain or discomfort absent in 4; shedding of decidua absent in 16.

The idifferential diagnosis between intraperitoneal bleeding from actual rupture from the sac, as opposed to escape from the ostium of the tube, is mainly to be based upon constitutional signs, particularly the temperature. The physical signs which develop from the ostial trickle consist in sudden severe hypogastric pain, particularly referable to the side, marked tenderness of the abdomen, and increased temperature; while in cases of rupture the symptoms of pain are associated with a distinct fall in the body heat and more evident of shock. In these cases the patient complained of marked epigastric tenderness and discomfort. When bleeding from abdominal ostium is excessively severe, the same symptoms will appear. Such conditions, however, are the exception.

"Bleeding through ostium, as a rule, is limited in amount, and is checked from a resulting local peritonitis. A definite pelvic swelling can be mapped out in a few hours. The acute symptoms subside, but the patient will, in the majority of cases, be subjected to a recurrence from

a renewed extravasation of blood. This apparently normal condition frequently throws the medical attendant off his guard. Should death of ovum occur with a complete separation, the hæmorrhage may permanently cease and the blood be absorbed." In exceptional cases, entire absorption occurs, and the tube is returned to its original patent state within a few months. In considering the treatment, he says: "A tubal pregnancy must be considered in the light of a malignant growth, and a continued menace to the life of the patient so long as it is present. The chief points which he wishes to emphasize are:—

1. The difficulty of diagnosis from the irregularity of the signs and symptoms.

2. The frequency with which it is simulated by other conditions.

3. The ease with which it may be mistaken for an ordinary abortion, and the necessity for thorough pelvic examination in all such cases.

4. And lastly, but most urgently, the absolute necessity for removal as soon as even a probable diagnosis has been made.

GONORRHŒA OF THE FEMALE GENITALIA.

Boukoyemski recommends the employment of methylene blue in the treatment of gonorrhœa in the female. In a series of experiments the investigator proved the efficacy of the aniline product as a gonocide, it being doubly effective because of its penetrating powers. The treatment consists of washings of the external genitals and vagina with a stream of one to two thousandth formaldehyde solution, after which a saturated solution of methylene blue, four and forty-five hundredths per cent., is applied to the urethra, vagina and cervix. Administration of these agents is resorted to once daily, or, in less virulent cases, thrice weekly.—*The Physician and Surgeon,* Oct., 1906.

DERMOID OVARIAN CYST SIMULATING FLOATING KIDNEY.

Isaacs (*Med. Rec.,* N. Y., 1905, Dec. 30) reports the following case:—P., æt. 19, was admitted to hospital with acute abdominal symptoms. A tumor in size, shape, and consistence like a kidney was found in the right side of the abdomen. It was freely movable, so that it could be pushed upwards under the ribs, and downwards into the pelvis. There had been some vesical irritability, but urinary examination was negative. The tumor was exposed by an incision outside the right rectus muscle, and proved to be a dermoid ovarian cyst, with a twisted pedicle 7 inches long.

SHOULD THE OVARIES ALWAYS BE REMOVED IN HYSTERECTOMY FOR FIBROMA?

E. Rochard (*Bull. gén. de Thér.*, Feb. 8, 1906) considers that there is no advantage in leaving an ovary in the abdomen of a woman on whom a total extirpation of the uterus has been done. Dangers exist that counterbalance any advantages that may result from the presence of ovarian tissues in the abdomen. A second operation may have to be done to remove the remaining ovary, which has undergone degeneration; it may become inflamed or cystic, or cause hæmorrhage in the abdomen, or formation of a blood cyst. The author insists on completely removing the adnexa at the time of the uterine operation. He believes that the supposed internal secretion of the ovary is not of enough importance to be consiedred in such cases.

[The reviewer would dare to differ with the above opinion. He thinks it is of great advantage to save, in patients who have not reached the menopause, at least one ovary if healthy. He has never yet regretted leaving a healthy ovary where hysterectomy was required for fibroma, but he does regret exceedingly removing them on one particular occasion—and that in a patient nearly 50 years of age.—S. M. H.]

DIFFUSE PERITONITIS.

Dr. John B. Murphy of Chicago repored thirty-six consecutive cases of general suppurative peritonitis from perforation, with one death.

In treating this condition he emphasized the importance of relieving pressure and of instituting drainage, doing as little surgery as possible. The patient should be put in a sitting position both before and after operation, so as to keep the infective material out of the diaphragmatic zone, and not the pelvic zone. At the time of operation, usually the patient has all the infection he can possibly carry; he or she, as the case might be, was handicapped, and it was the duty of the surgeon to eliminate that infection or intoxication as much as possible, and in doing so, care should be taken not to abrade another square inch or half of a square inch of surface so as to admit more infective material. The patient should be tided over for a few hours and his local resistance built up by washing out the blood with normal salt solution. Antistreptolytic serum should be employed. Little or no food should be given, as what hastened absorption of infective material in the diaphragmatic zone was peristaltic action.—*Surg., Gyn. and Obs.*, Nov., 1906.

OBSTETRICS AND DISEASES OF CHILDREN.

Under the Charge of D. J. EVANS, M.D., C.M., Lecturer on Obstetrics, Medical Faculty, McGill University, Montreal.

THE RELATION OF WEIGHT TO THE MEASUREMENT OF CHILDREN DURING THE FIRST YEAR.

The statistics of this paper, by E. C. Fleischmer, *Arch. of Ped.*, October, 1906, are based upon the examination of 500 children, all of them being hospital patients in New York city. They are divided rather arbitrarily into well nourished, fairly well nourished, and poorly nourished classes. Twenty-five per cent. of the cases were well nourished, 35 per cent. fairly well nourished, and 40 per cent. poorly nourished. A series of charts illustrating the conditions found and a series of tables constitute the bulk of the paper. The conclusions reached from a study of these statistics show that the greatest gain in weight and length is in the first quarter of the first year. In fairly well nourished children, the same obtains. In poorly nourished children age plays its most important part, and the measurements of these children increased most rapidly in the last part of the year. In poorly nourished children increase in the measurements is small, age having but slight influence upon them.

The measurements of the infants of the same weight, notwithstanding the age, are very similar.

The final conclusions can be drawn that during the first year of life the primary factor in the increase of measurements of the body, with a steady, consistent increase in the weight, the influences of age being secondary and of less importance.

SODIUM CITRATE IN INFANT FEEDING.

The author, A. C. Cotton, *Jour. A. M. A.*, Oct. 6, 1906, states that he has no wish to belittle the value of attempts at accuracy in determining the component parts of the infant dietary, but he emphasizes the fact that no royal road to successful feeding by exact mathematical formulas has yet been found. In a very interesting and important paper on this subject the author reviews the development of modified milk feeding briefly, and devotes his paper particularly to the discussion of the proteid element of cow's milk in infant feeding. He considers that the important question in feeding cow's milk is not how to reduce the proteids and sustain life, but how to increase the proteids and maintain unimpaired digestion. He briefly reviews the various attempts to solve this problem that have been made in the past. Believing that sodium citrate, by its inhibition of dense coagulation of cow's milk in the presence of an acid and rennin, is valuable in the solution of the proteid

problem, he gives his experience. He has used it in more than fifty cases in both hospital and private practice, and has collected 112 cases embracing nearly all conditions from simple dyspepsia to marasmus, and ranging in age from new-born to adults who have suffered from milk dyspepsia. The method of employment was to give an aqueous solution containing 1 gr. to 5 grs. to the drachm. A sufficient quantity of this is added to the baby's bottle immediately before feeding, to represent 1 gr., 2 grs., or even 3 grs. to each ounce of milk in the mixture, according to what is indicated. No alkalies are added to the milk when sodium citrate is used, it being a neutral salt. The most noticeable factor in this method of feeding is the large proportion of milk in the feeding mixture that the infant will tolerate without evidence of gastric disturbance, or the appearance of any considerable amount of undigested casein in the motions. One indication for the increase of the sodium citrate, even in some cases as high as 3 grs. to the ounce of milk, is vomiting of curds. Another indication is the appearance of curds in the motions, care being taken to exclude indigestion from excess or intolerance of fats. As toleration is established the amount of sodium citrate is reduced to 1 gr., to ½ gr., and to ¼ gr. per ounce of milk until it is discontinued. In but six cases has the author felt obliged to discontinue the citrated milk and adopt other methods of feeding, and these were among his earlier cases, when he lacked experience.

The method allows of more rapid increase in the proportion of milk ingested than any other known to the author, and he has never seen any harmful effects.

Dr. F. W. Allin, under the direction of the author, carried out a series of experiments in connection with the use of the sodium citrate in milk solutions, and forms the following conclusions:

1st. Sodium citrate, in 25 per cent. or more, retards, and very high percentage will inhibit coagulation.

2nd. The presence of HCl hastens coagulation.

3rd. Diluting milk generally retards coagulation.

4th. Gruels appear to have little or no effect in retarding coagulation more than water when the citrate is used.

5th. The coagula of citrated milk are softer, smoother and more jelly-like or more flocculent than those of the milk not thus treated.

The simplicity of this method commends it, especially in dispensary and out-patient practice, where the mother's demand for "medicine" for the baby's dyspepsia may be met by the standard solution of sodium citrate to be administered in a teaspoonful dose in each bottle of the feeding mixture. In private practice it furnishes another rational method of infant feeding.

OPHTHALMOLOGY AND OTOLOGY.

Under the charge of G. STERLING RYERSON, M.D., C.M., L.R.C.S., Professor of Ophthalmology and Otology Medical Faculty of the University of Toronto.

TRAUMATISMS OF THE EYE AND ITS APPENDAGES.

Injuries of the eye and its appendages are relatively common and include the traumatisms produced by almost any form of violence.

EYELIDS.—Injuries of the eyelids are mostly contusions, incised wounds, and burns from hot water, acids, caustic alkalies, burning gases or molten metal. The chief aim in dealing with these traumatic lesions is to prevent subsequent deformity and possible interference with the function of the eye.

Burns of the external surface of the lids are very apt to produce deformity, principally ectropion, which must be treated by subsequent operation. The immediate treatment of the burn is the same as the treatment of a burn in any other part. Pure carbolic acid painted over the burned area will relieve pain and afford an antiseptic protective dressing through coagulation. Carbolized oil and lime water is also a soothing application. After the burned surface has become covered with healthy granulations Thiersch grafts are indicated. If the burn involves the conjunctival surface of the lid and eye-ball constant care should be exercised to prevent symblepharon or union of the lid with the eye-ball. This should be guarded against by repeated separation of the opposed raw surfaces and liberally covering them with 1 to 5,000 bichloride vaseline. In spite of this treatment there is usually a certain amount of adhesion which must subsequently be corrected by operation consisting of separation of the adhesion, sliding the conjunctiva when possible, or the application of grafts.

Gunpowder burns about the eye are very disfiguring. Efforts to pick out the powder grains are usually unsuccessful, but the discoloration can be greatly lessened and the grains can be removed more easily if peroxide of hydrogen, which in a measure decolorizes the powder, has been applied.

CONJUNCTIVA.—Wounds of the ocular conjunctiva without involvment of the deeper tunics of the eye are rare, but occasionally the conjunctiva may be so lacerated as to require fine sutures. The sutures should be removed in two or three days, but the bandage should be worn until firm union takes place.

Burns of the conjunctiva from lime, caustic alkalies, acids, hot water or steam, molten metal, and burning powder or gases are of frequent occurrence and are always very painful. When seen promptly the lime or lye burns should be neutralized with diluted vinegar, milk or oil, and

the acid burns with a solution of bicarbonate of soda. Any remnants of the caustic substance should be removed. The subsequent treatment as for all burns consists in applications of soothing eye washes such as boracic acid solution, cold applications and 1 to 5,000 vaseline, and efforts to prevent adhesions between the lids and the eye-ball. Occasionally an interposed plate of celluloid or metal, of suitable shape, will prevent adhesions and permit the raw surfaces to become cicatriced.

PAY TOO SMALL.

Is the country physician paid enough? Of course he is not. Nor is the country school teacher nor the college professor, nor the general run of members of any learned profession. Brains rule the world, and direct labor, but they are not sufficiently rewarded. One reason is because it is not the fashion for the workers in the learned professions to form trades unions, and by means thereof, accompanied by walking delegates, to insist upon a certain scale of compensation or a reduction in working hours. We have had illustrations in plenty in San Francisco of the way the doctors are rewarded. Hod carriers, plumbers' helpers, to say nothing of the bricklayers and the working plumbers themselves, are esteemed more highly than the physicians, who each spent thousands of dollars fitting themselves for practice. This is galling in the extreme. The country physician never is paid enough, and probably never will be. If he makes money, it is in some side issue. He will never make more than a living at his profession, partly because the public are not educated up to a proper appreciation of his desserts. There is no road that we know of, royal or otherwise, to fair treatment for the country doctor; but when any writer asks the question which begins this article, it is safe to give a quick and decided negative answer.—*Medical Sentinel.*

GONORRHŒAL AFFECTIONS OF THE EYE, CAUSED BY CONSTITUTIONAL POISONING.

Baylac (*Clinique Ophthalmique*) reports a case of severe double iritis and joint affection in a patient suffering from untreated gonorrhœa.

Gendron (*L'Ophthalmologie Provinciale*) reports three cases of iritis which appeared for the first time as a complication of gonorrhœa and recurred without fresh urethral symptoms. There was no sign of arthritism in any of the patients. Gendron considers that the occurrence of these relapses was due to the action of toxins rather than of living gonococci. Galezowski also records cases of iritis, choroiditis and neuroretinitis attributable to the gonorrhœal poison.

LARYNGOLOGY AND RHINOLOGY.

Under the charge of PERRY G. GOLDSMITH, M.D., C.M., Toronto, Fellow of the British Society of Laryngology, Otology and Rhinology.

CONSIDERATIONS UPON THE DIAGNOSIS AND TREATMENT OF SUPPURATION IN THE NASAL ACCESSORY SINUSES.

Herbert Tilley (*B. M. A. Jour. Laryngology*), in discussing the treatment of maxillary sinus suppuration, says that those cases of rather recent and of dental origin are the ones in which we may, in some cases, expect a cure. He uses a narrow, solid vulcanite plug, with a milled surface. The chronic cases, whether of dental or nasal origin, will require some form of radical operation. When the uncinate process is much hypertrophied or polypi are present in the middle meatus, a radical operation is practically always called for, and since such changes are more frequently present in cases of intra-nasal origin, his dictum is tantamount to saying that the radical operation is generally required to cure chronic cases, where the source of infection has been by way of the nose.

When radical measures are called for, Tilley practises the Caldwell-Luc operation with the following modifications :—

1. The whole inner wall is removed, especially the upper membranous portion. The lower limit of the opening should be level with the floor of the nose, so that free drainage may take place. The lower anterior ethmoidal cells should be curretted at the same time, because they are frequently infected, and, if not dealt with, an imperfect result will be attained.

2. Only such of the mucous membrane as is diseased should be removed. If healthy mucous membrane is removed healing is much longer delayed, and considerable discharge from granulation-tissue will result.

3. The bucco-antral wound must be sutured at the close of the operation. Omitting to do this is one case led to a bucco-antral fistula, which for months was an annoyance to the patient and a weariness to myself. Such fistulas are often very difficult to cure, unless the wound is opened up and the track freshened.

4. No packing is introduced into the antrum. It is quite unnecessary, for it serves no useful purpose, and its removal is very painful to the patient. He has never seen œdema of the cheek since he ceased packing.

5. The after treatment consists of syringing the nasal cavities with warm antiseptic alkaline lotions for a period of three to five weeks after operation.

MOUTH-BREATHING.

Dr. William Lincoln, of Cleveland, read a short paper with this title, and illustrated his remarks with lantern slides. He called attention to the fact that many children remained mouth-breathers after adenoids and enlarged tonsils had been removed, but the patients had often suffered so great a distortion of the osseous framework of the face, particularly of the upper and lower maxillæ and their arches, that no amount of work by the rhinologist alone will relieve the difficulties from which they suffer. The dentist is the one who can help the sufferer out. Under normal conditions the mouth is closed and the teeth and lips properly apposited by the normal tonicity of the facial and buccal muscles, but when the latter are weakened by altered bone-conformation the jaws are closed and held together only by conscious effort. During sleep the jaws drop apart. Sometimes the posterior molars come together in such a way that it is impossible for the incisors to meet. Thus the jaws are locked. The determination of cause and effect in the study of these deformities of the facial bones and lymphoid hypertrophies is not easy. Either condition may be provocative of the other. Adenoids and tonsils may weaken the growing child so that dentition is delayed and teeth-decay is started, and the whole framework of the face and whole body retarded and weakened in texture. Locally, it seems probable that if the lymphoid masses are large they may by slight but constant pressure change to some extent the correct relation of the upper and lower maxillæ. On the other hand, the normal width and shape of the maxillary arches being disturbed, there must follow septal deformities, turbinal distortion, and enlargements, and, in consequence, encroachments on the lumen of the nares, rendering nasal breathing impossible or very difficult, whereby in turn the naso-pharynx suffers and adenoids ensue. The slides shown illustrated the changes in jaw-conformation produced by proper dental prosthesis.—(Proceedings American Laryngological Association, *Journ. of Laryngology.*)

OBSERVATIONS ON TUBERCULOSIS OF THE MASTOID IN CHILDREN.

As a result of investigation of eight cases of tuberculosis of the mastoid in children, the author comes to the following conclusions:—

1. That mastoid tuberculosis in children is a comparatively frequent disease, about one-fifth of all cases of mastoiditis in children being tuberculous.

2. Tuberculous mastoiditis in children is in most cases primarily an osseal disease, that is to say, induced through the circulation.

3. This primary osseal tuberculosis is more frequent than the secondary form which results from tuberculosis of the tympanum.

4. This mastoid tuberculosis is, in many cases, purely local and comparatively benign; it is very amenable to treatment, and, if operation is carried out in good time, the prospects of recovery are good.

5. In the operation it is generally possible to remove all the disease by means of simple chiselling of the bones of the mastoid; it is only in a few cases that it is necessary to clear out the tympanum as in the radical mastoid operation.

6. Certain diagnosis of the presence of tubercle can only rarely be determined by the naked eye, but mainly by microscopical examination. Experiment on animals does not give such a certain result as the microscope.

7. Facial paralysis is relatively rare in tuberculous mastoiditis in children, and, when it is present, it points to an advanced process in the bone.

8. Tuberculosis of the pharyngeal tonsil has no marked significance in the retention of such mastoid tuberculosis.—(Henrich, Zeit. für Obrenheilkundl.)

A STUDY OF THE NATURE OF THE MICRO-ORGANISMS FOUND IN THE MOUTHS AND THROATS OF HEALTHY PERSONS.

In the October issue of the *University of Pennsylvania Medical Journal,* there is a report by J. B. Ructer, Jr., M.D., of the Laboratory of Hygiene, University of Pennsylvania, on experiments carried on to determine the nature of the micro-organisms found in the mouths and throats of healthy persons, twenty in number. Material was obtained by means of a sterile swab from the mouth and fauces; cultures were made on Lœffler's blood serum tubes and on agar slants and direct smears. The diastatic properties were determined by growth on a starch medium. The results were as follows:—

1. All the throats examined contained streptococci and diplococci, showing them to be normal inhabitants of the normal mouth and throat.

2. Streptococcus mucosus was found in 70 per cent. of all cases.

3. Atypical pneumococcus occurred in 50 per cent. of the twenty cases.

4. Typical pneumococcus was present in five cases, or 25 per cent. of all.

5. Organisms of the same species may behave differently in their action on starch if the organisms are from different sources.

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EDITORIAL.

FOOTBALL PATHOLOGY.

Under this caption the *Journal of the American Medical Association* for 8th December, 1906, has an interesting editorial. It refers to the fact that the modifications in the rules has reduced the number of fatalities and serious injuries. The *Journal* goes on to say :--

"It has been claimed that changes in the game in the direction of greater safety would lead to a diminution of public interest in the sport. Apparently it was not realized that interest scarcely affords adequate compensation for the loss of a score or more of lives in a season's play. The present year's experience shows, however, that the more open game not only has not detracted from the interest of spectators, but has added to it. It must be conceded that the ball and the play have been followed with much more interest than before.

"It would seem, therefore, that it only remains for the rules committee to modify the present game further in the direction already begun, and the result will be the elimination even of the sad accidents which have marred the present year's record. It must not be thought that serious injuries did not occur in addition to the fatal accidents. Some of these were even more numerous than last year. The broken collar bones increased from seven last year to nine during the present season. There were eight broken legs this year against six last year. Broken ankles were reported twice in each year. There were seven twisted knees in 1906, against five in 1905. All of these show that the game still has a rough character which may become dangerous and for which much can be done.

"President Roosevelt is to be congratulated on this very noteworthy improvement. It was his vigorous protest and personal intervention which, more than anything else, brought the football rules committee to its senses. Football can not be made a parlor game. We fully agree with the President's remark that he has no sympathy whatever with the overwrought sentimentality which would keep a young man in cotton-wool. On the other hand, as remarked by the *Independent*, 'there is

still less reason for sympathy with the overwrought brutality which puts a young man in sterilized cotton.' If as decided an improvement takes place in the season of 1907, there will be little room for complaint left. Surely where so much good has been accomplished there will be every encouragement still further to ameliorate conditions, and no one will welcome such an amelioration more than the *Journal,* which has for several years pointed out the fatalities and urged the necessity for radical changes in the rules such as have fortunately come and now need only some extension to be completed satisfactorily."

There is decidedly something wrong with the game when a great writer would speak of it in these words: "Football has the same relationship to education that a bull fight has to farming."

All who love the game and whatever is best in college life, will await with interest the changes that may be made in the rules of the sport.

DR. ALEXANDER CRICHTON WINS HIS APPEAL.

The case of Dr. Crichton has been before the Medical Council for a considerable length of time. The Medical Council at its meeting in June last decided to erase his name from the medical register. From this action of the Council Dr. Crichton appealed. The following is a brief synopsis of the finding of the court before which the appeal was tried.

Judgment in the appeal of Dr. Crichton of Castleton from the ruling of the Medical Council, striking his name from the rolls for "disgraceful and infamous conduct," in a professional sense, in having advertised a la grippe cure, was given out by the Division Court on Saturday, 16th December, 1906.

The court allows the appeal, without costs, and declares that his name should be restored to the register, but without prejudice to the question as to whether, on a subsequent enquiry, there may not be proper ground found for erasing his name.

The case was argued before Chancellor Boyd and Justices Magee and Mabee.

In summing up the case, the Chancellor goes on to say that the Medical Council does not appear to possess such extensive power to discipline and exclude delinquents as has been given by the Legislature to the Law Society.

"To the benchers is entrusted power to enquire into the conduct of lawyers who are charged with professional misconduct or with conduct unbecoming a member of the Law Society," says the Chancellor. "So, to a more limited extent, in medicine, if one has been admitted to prac-

tice on certain explicit conditions and has given an undertaking to observe them, *i.e.*, a promise not to advertise in any offensive way, by breach of that engagement it might well be regarded, if wilfully and deliberately made, as disgraceful conduct in a professional respect."

After referring to previous decisions, the Chancellor says that such an element is wanting in the case at hand.

"At all events, no definite delinquency is charged in that respect, for no code of medical ethics was in force here till about 1878. Before that time the matter of confining oneself to medical ethics or etiquette rested in the honor and good sense of the individual.

"The conclusion I reach is that there may not have been a due enquiry in the Crichton case, and the appeal is allowed, and, in consequence, his name, if struck off, should be restored to the register. But this judgment is to be without prejudice to the question whether, in a subsequent enquiry, there may not appear to be proper grounds for erasing his name.

"As to costs, I cannot say that this proceeding has been frivolous or vexatious. The conduct of the appellant has been such as to provoke complaint and invite investigation. He has offended against the provisions of the Ontario code of ethics, which declare it to be derogatory to the dignity and prestige of the profession to resort to the practice of secrecy, on the one hand, and publicity, on the other, which, though not in force when he was registered, yet declares the professional standard of conduct, which he has disregarded, to set up a trade standard for himself; so that, while in the result he may be right legally, he is wrong professionally. Having regard to this and other considerations, I do not think that the Council, who are discharging a quasi-public duty, should be called upon to pay the costs of the investigation or this appeal."

Justice Mabee says in his summing up:—

"This man was entitled to the individual judgment of each member of the Council, and, from the report of what took place, I am satisfied he had it. Complaint was made throughout trial that Dr. Crichton refused to make the formula of his medicine public. This was said to be against proper practice. It may be so, but he was not charged with that and was not convicted of it.

"I do not deal with what was said upon the argument about the beneficial use of this medicine, or some of its component parts, in the class of troubles set forth in the circular, nor do I think it needful to make reference to the medical works that were referred to, as in the view I take of the case it is not necessary to do so. The charge was mere advertising. He was convicted of fraud or something he was not charged

with. The evidence is not sufficient to convict of fraud, even had he been so charged, and the trial has not been conducted with those safeguards that should be carefully observed upon a case fraught with so serious consequences as the present one.

"I would allow the appeal and order the name to be reinstated. I have not overlooked the fact that it was objected to our admitting the proceedings of the Council when the vote was taken upon this appeal, but I think they are admissible."

Mr. Justice Magee, in concurring with the Chancellor's judgment, expressed very freely his views of the course pursued by the Council as will be seen from the following extracts:—

"The committee did not comply with the statute and by-laws, by ascertaining or reporting facts upon which the Council could act, but they simply laid before the Council the evidence and assumed to themselves the duty of the Council, in finding the accused guilty. The unfairness of the course pursued is manifest on a reference to what occurred when the report was presented and the resolution for erasing the name passed.

"Thus the committee not only undertook to investigate charges of infamous and disgraceful conduct, which had not been deputed to them to enquire into, but they also undertook to find it proven and to add matters which had not been contained in the charges made, and the Council were informed they could act upon that.

"The appeal should be allowed and the appellant's name restored, if erased, in the register."

A SEMMELWEIS MEMORIAL.

From our esteemed exchange, the *Medical Times,* for December, 1906, we take the following interesting item:

"It is stated that a monument is to be erected in Vienna to Ignatz Philipp Semmelweis, the founder of the knowledge of the etiology and prophylaxis of child-bed fever. In that city this great physician fought for the establishment of the great truths which have resulted in the saving of countless thousands upon thousands of mothers; "and its physicians propose to honor his memory in this manner." Excellent! but does not tradition have it that Semmelweis was, while he lived, one of the most bitterly maligned of men? Is it not even narrated that he was practically hounded to his death by his dear colleagues of the Viennese faculty? Is a monument going to set all that right, now that Semmelweis is dead? Erect one by all means; but it were decidedly worth while

that the profession which Semmelweis so well served will in our day most conscientiously determine that such history shall never repeat itself."

And so it was with Dr. O. W. Holmes. Against him were levelled all the bitter attacks possible from such men as Meigs and Hodge, because he held that puerperal fever was communicable and preventible. But he was right and he lived to see his views accepted, while poor Semmelweis did not.

Again, Morton, the discoverer of ether, was neglected and died poor. The Congress of the United States passed a vote of money for him, but the President refused to sign it! Thus, poor Morton received nothing. As important a discovery in the industrial world would have made him a millionaire; but to relieve pain and save life counted for nothing.

Edward Jenner had a vote of £10,000 passed for his work, but £8,000 went in charges, dues, or expenses, and so he only received £2,000 for his immortal work on vaccination. Many a surgeon receives as much for an ordinary operation.

We endorse the words of the *Medical Times* that these things have been the disgrace of the past, but we hope that such will not be the reproach of the future. It would appear as if the medical scientist would fare better in the future than in the past, though it must be admitted that his work is poorly rewarded when compared with discoveries in the commercial world.

LONGEVITY AND THE MEANS OF ATTAINING IT.

Most persons desire to live to old age. The story is told of the author of the hymn, "I would not live always," that he said when a man of 80 years that the sentiment was not as strong with him as it was at 20 years, when he composed the verses. There is a very common experience that as the years go by, the desire to live on deepens in the affections of most people.

Sir Lauder Brunton, in an address on this subject (*Lancet*, Nov. 17, 1906) covers a good many of the phase of long life. He mentions that the risks to life arise from without and from within the body.

He points out that the expectation of life in 1854 was a little under 40 years, while in 1900 it was a little under 48 years. It appears, however, that the number of males who attain to the age of 90 or 100 years has decreased, whereas there has been a slight increase in the number of females who reach these ages.

Among the reasons for the increase in the expectation of life is mentioned the life-saving influence of antiseptics in obstetrics and surgery,

and the effect on the death rate of preventive medicine on infectious diseases. He referred in his address to the contagiousness of a cold, and the influence of dust in causing a cold in the head and bronchitis.

Another point to which attention is devoted is the evil effects of cold halls and closets. People go out of their warm rooms into these halls and closets, thus becoming chilled. Some old and delicate people who would be very careful to wrap up if they went outdoors, will not do so when they go through these halls or into these cold closets. Draughts are specially dangerous. In these ways we guard against danger from without.

Another matter of prime importance is that of raising the resisting power of the body to the highest level. One of the helpful ways of securing this is to practise deep respiration, as it greatly improves the nutrition of the lungs and the well-being of the circulation. Walking is another excellent means of maintaining health. This should be done daily in forenoon and afternoon from half an hour to three hours. Once a week a prolonged spell of exercise of four to six hours; and once or twice a year, a walking or climbing tour of three or four weeks.

As age advances certain organs acquire increased resistance to bacterial infection such as the intestinal canal; but this same region becomes prone to cancer, as age advances. This disease causes 12,000 deaths per 1,000,000 as compared with 8,000 from pneumonia in ten years. Cancer is very common at the pylorus, and improperly chewed food is an undoubted irritant to this region, and so may seriously shorten life. Cancer of the uterus, breasts and liver cause very many deaths, and these organs are subject to much irritation and traumatism. It would seem as if cancer was more frequent among the well-to-do and well-fed classes than among the poor. This may be true also of organs—those receiving much blood being more liable than others.

In ten years per 1,000,000 there die 34,000 from heart disease and 39,000 from diseases of the blood vessels. In this group of diseases diet plays a very important role, as over indulgences are certainly causative.

According to Metchnikoff, there are microphags and macrophags among the phagocytes. The former devour germs, while the latter heal wounds and lesions. They also eat up cells; and in this way, ordinary senile decay may be the work of these macrophags to some extent. Several of them will consume a brain cell.

High living and indulgences, and over nervous and muscular strain cause arterio-sclerosis, with all its terrible effects. This group of diseases is to a considerable extent preventible. Avoid the formation of poisons in the system and encourage elimination are the methods that must be fol-

lowed. Early recognition of high arterial tension is most important, as it may be the means of averting many a death, by heart failures, apoplexies, and degenerations. The pressure should be lowered, and this can be done by proper dieting, hygiene, exercise and medicines.

In this way life may be very materially lengthened by avoiding infections, guarding against such conditions as cause cancer, and lessening the risks to vascular degenerations.

MIND IN MEDICINE.

Whatever the opinions might have been in the past, there is no doubt at the present moment regarding the important part played by the mind both in health and disease. It was the custom at one time to speak of consciousness as being the mind and the mind being consciousness. This day has gone by. Consciousness is only an attribute or function of mind. There is much in the old saying, *Mens sana in corpore sano.*

The study of physiological psychology within recent years has thrown much light upon the curative power of nature—the *vis medicatrix naturæ*. That fear and anxiety will alter the secretions and injure health is well known. That hope and good fortune will stimulate circulation and functions of the body is also a recognized truth. The wise old bard of Weimer said that the best remedy for our sad hours was to recall our happy ones. A story is told that a patient called upon the late Sir William Gull in a very dejected frame of mind. Sir William was aware of the fact that his patient had met with some heavy losses and was very much worried. Sir William went aside and wrote out a cheque for all the fees he had received from his patient, enclosed it in an envelope, and handed it to him, saying that he should go and have this prescription filled, as it would do him much good. Sir William was treating the man's ailments through his mind.

At different times various points have been suggested for study. The general relationship of the mind and body in health. The study of temperament and mental peculiarities, that are compatible with sanity and may yet affect the functions of the body. The influence of character and education on the environments and the cure of disease. The extent to which the mind may modify the action of remedies. The way in which the mind may aid or retard the natural powers in the cure of disease. Then, again, the influence of one person over another. We know the words of Sir James Paget on the influence of character as counting for more than mere education.

It is by making use of this influence of the mind over the body that Christian Science has been able to make the headway it has. Those who do not understand the *modus operandi* of disease and functional disturbances attribute mystery to a method when there is no mystery.

It is to be hoped that the medical profession will take the matter up and deal intelligently but fearlessly with such a system of treating disease, as Christian Science, which owes its success to the fact that it has made use of some true psychological principles to float through an immense mass of humbug and fraud. It is one of the duties of the medical profession to set the public right on such issues.

THE OPSONIC INDEX IN MEDICINE.

Much work has been done of recent years on the subject of immunity, and, as an outcome of this, we have the present teachings regarding opsonins. The word is from the Greek, and means to prepare for food. Put in simple language, the opsonic theory means that there is something in the blood that acts upon bacteria and renders them fit for their ingestion by the white corpuscles. As the result of research it is now held that the opsonins are in the blood serum and not in the leucocytes. There is some difference of opinion as to whether the opsonins act on the bacteria or the leucocyte, Sir A. E. Wright holding the former view, while Professor Leishman holds the latter.

In carrying out this method of studying disease, vaccines must be prepared. The vaccine is obtained from a culture of the organism causing the infection, grown on broth or agar. In the latter case a suspension of the bacteria is made in normal salt solution. It is sterilized by exposure to a temperature of 65 to 75 deg. C. for half an hour, and the addition of a half per cent. lysol. The material thus obtained is the vaccine and is ready for inoculation. The number of bacteria per cubic centimeter is the test of its strength.

On the injection of a dose of this vaccine there is a period of diminished resistance to the organism with which the person is infected. This is the negative phase. This is succeeded by an increase in the resistance to the organism, or the positive phase of the inoculation. The result of this ebb and flow is that the immunity is permanently raised.

If the dose of vaccine be very slight, the negative phase may pass almost unnoticed, and the positive phase be correspondingly slight. If the dose of vaccine be too large the depression may be so severe that no reaction takes place towards a positive phase. It is advisable to begin with the smallest dose that will yield a positive phase, and reinoculation should take place when the positive reaction is beginning to decline.

This method of treatment by vaccines prepared from dead bacteria has been tried with varying degrees of success in the infections from the staphylococcus, the colon bacillus, the pneumococcus, and tuberculosis.

Considerable work has been done along the line of applying these vaccines as a means of diagnosis. In the case of tuberculosis, it is believed the opsonic index of the blood taken from some part of the body remote from that affected is much higher than that of the serum, pus, or transudate obtained from the affected part. This may prove a very valuable addition to our present means of determining whether a suspected lesion is tubercular or not.

It would thus far appear that there is good ground for hoping that some very useful therapeutic results will follow from these investigations. They may also add another means of aiding in the diagnosis of doubtful cases. It has also been thought that the opsonic index may be of use in determining the hereditary tendency to tuberculosis.

THE NEED FOR ORGANIZATION.

There is at present an urgent need for the profession taking steps to organize itself along lines that will protect its interests. There are indications that very clearly point to the dangers looming up in the near future. Indeed, many of these dangers are here now, and will not easily down. THE CANADA LANCET has repeatedly warned the medical profession regarding many of these questions. Now that the Medical Council elections are over, it is to be hoped that each member will lose no time in calling a meeting of the profession in his district to take some definite action in this matter. The following remarks, which appeared in the *Journal of the American Medical Association* for 14th November, 1906, suit our condition so well that they are given space here:—

"It is noteworthy that physicians realize as never before the benefits of organization, not only to individual members, but also to the medical profession in its complex relations to the general public. While practically all of the States of the Union have taken final action and have adopted the 'essentials to uniformity' of organization, the work has not as yet been completed. In this direction, the results already accomplished by Dr. J. N. McCormack are worthy of the highest commendation. Moreover, there are at present to be found scattered throughout the length and breadth of our land many volunteers who have taken up the work with zest and earnestness.

"The beneficent influences of organization, Dr. J. M. Anders of Philadelphia states, are easy of explanation, and among the most obvious stands its power to stimulate men to useful tasks. It is undeniably true

that the major portion of important and far-reaching constructive work by members of the medical profession is performed under the stimulus of an organized society. Again, the association of men together leads to the establishment of relations which play no minor part in their mutual advancement. To belong to the county medical society, then, is a necessity at the present day, if the physician would take advantage of the principal means at his command to advance himself in the profession. Organization means progress, not alone to the individual member, but to the profession, for by organization the profession gains added weight, influence, dignity and honor.

"Unquestionably, the county medical societies should and are coming to appreciate their advisory capacity in matters that relate to the physical and moral welfare of the community. Men should be prepared to take up seriously the consideration of the medical service to be maintained and improved; they should be thoroughly acquainted with their rights, privileges and power for safeguarding the most vital interests affecting the well-being of the community.

"In regard to the question of promoting the general good, Dr. Anders declares that the medical profession had scarcely kept pace with the march of civilization. The county medical society should aim to procure suitable municipal and State legislative enactments, to secure ample and appropriate accommodations for the consumptive and the insane poor, and to remove the dense clouds of ignorance which so effectually retard the progress of State medicine and other branches of professional work. It is especially in the matter of public instruction and enlightenment that the medical profession as an organized body fails to meet its true responsibility."

Let us in this country be up and moving. There is much to be done, and something for all, but especially so in the case of the members of the Medical Council.

SMALL-POX AND FOLLY.

"Halifax, Dec. 5.—The small-pox situation in Cumberland County has assumed so serious a phase that a special danger order has been issued by District Superintendent Jarvis of the Intercolonial Railway at the request of the Board of Health of Cumberland County, that no persons will be allowed to leave Springhill without a permit from the chairman of the Board of Health stating that the traveller has been successfully vaccinated and has not been exposed to the contagion of small-pox. Each person presenting a ticket at Springhill Junction must be in possession of this permit.

"Doctors will travel on trains between Springhill Junction and Maccan. An accurate estimate of the number of cases of disease in Cumberland is about six hundred, of which one-half are in and near Springhill Mines."

The above item makes interesting reading at this date of more than a century since Jenner announced his observations to the world on the value of vaccination. The outbreak of small-pox mentioned in the above despatch will cost the Province a large sum, it will entail much sickness, cause a good deal of disfigurement, and more than likely some deaths. All this is due to the fact that there are many persons who, through ignorance, carelessness, or prejudice do not get themselves vaccinated. There is only one way to deal with this subject, namely, to make vaccination compulsory. As soon as an excuse is afforded there are many who will avail themselves of it, and consequently the community contains many who are not protected.

If the anti-vaccinationists claim the right to refuse the protection of vaccination, they should be made pay the cost of the epidemics they cause. When they had a few heavy bills to meet, it might do more to cure them of their folly than a good many scientific and statistical arguments on the value of vaccination. It is to be hoped the Provincial Governments will have the courage to make vaccination obligatory, or make those who refuse pay the bills for the care of small-pox cases. But the "anti" vote may prove a deterrent; and the politician needs votes.

THE ONTARIO MEDICAL ACT—AN IMPORTANT JUDGMENT.

The following judgment from the Court of Appeal makes it quite plain that the Medical Act for Ontario does not clearly set forth a definition of what is meant by practising medicine. We advise our readers to carefully study the language of the judgment. As THE CANADA LANCET has repeatedly taken occasion to warn the medical profession that it must be alert to maintain such restrictions in the Act as will protect the public. It is a poor reward, indeed, at the hands of our legislators to secure such faulty legislation, when one considers all that the medical profession has done for the public along the lines of preventive medicine and hygiene. As things now stand, no general judgment can be given on the Act. Each case must be decided on its own merits.

COURT OF APPEAL.

Before Moss, C.J.O., Osler, Garrow, Maclaren, Meredith, JJ.A.

Re Ontario Medical Act.—Judgment (L.) upon a question referred to the Court of Appeal as to the construction of section 49 of the Ontario

Medical Act. Ought it to be held upon the true interpretation of section 49 of R.S.O. 1897, ch. 176, that a person not registered under that Act undertaking or attempting for reward to cure or alleviate disease does not practise medicine within the meaning of that section, merely because the remedy advised, prescribed or administered by him does not involve the use or application of any drug or other substance which has, or is supposed to have, the property of curing or alleviating disease, that is to say, do the words "to practise medicine" in that section mean to attempt to cure or alleviate disease by the use of drugs, etc., or do they include cases in which the remedy or treatment advised, prescribed or administered does not involve the use of drugs or other substances which have, or are supposed to have, the property of curing or alleviating disease. The answer of the court is that each case must depend or be determined on its own circumstances, but dependent upon the facts in each case there may be a practising of medicine which does not involve the use of drugs or other substances having, or supposed to have, the property of curing or alleviating disease. Per Moss, C.J.O.: The question asked is within the scope of the authority to refer conferred by the Act; and it is within the competency of the court under R.S.O. 1897, ch. 84, to make answer to it. In considering the question, regard must be had to the decided cases bearing upon it. Having regard to the way in which the second part of the question interprets the first part, we are asked to put a legal interpretation on the words "to practise medicine" in section 49 of the Ontario Medical Act, which interpretation is to be applied to every possible kind of case that may arise. We are asked to say whether their meaning is to be confined to treatment of illness or disease, or whether their meaning extends to include treatment which does not involve the use of drugs or similar therapeutic agents. The generality of the question prevents a categorical answer. It would not be possible, even by attempting a process of exclusion, to cover all cases that might arise. It is possible to say, because it has been so decided by a court of competent jurisdiction that the defendant in Regina v. Stewart, 17 O. R. 4, in doing what he did in that instance was not practising medicine. But unless there is a concrete case with the facts proved or known, how is it possible to say whether or not the words in section 49 are applicable? If the answer given was that if it were shown that a person not registered under the Ontario Medical Act attempted to cure or alleviate disease by methods and courses of treatment known to medical science and adopted and used in their practice by medical practitioners registered under the Act, or advised or prescribed treatment for disease or illness such as would be advised or prescribed or administered did not involve the use or application of

any drug or other substance having or supposed to have the property of curing or alleviating disease, he might be held to be practising medicine within the meaning of section 49, it would still leave the matter to be dealt with in a concrete case in which the ultimate decision must turn upon the facts found. Yet this is the only way in which the question is capable of being answered without endeavoring by some process of exclusion to imagine and provide for all possible cases. Reference to *Re* Lord's Day Act, 1 O.W.R. 316 (1903), A. C., at p. 529. The question does not admit of an unqualified affirmative or negative answer, and no other answer can be framed to meet all the possible cases that might occur. W. Nesbitt, K.C., and H. S. Osler, K.C., for the Medical Council of Ontario. S. H. Blake, K.C., and J. E. Day for the Osteopaths. H. Cassels, K.C., and R. S. Cassels for the First Church of Christ Scientists. W. M. Hall for the Second Church of Christ Scientists.

OBJECTIONABLE PUBLICITY.

In the Toronto daily papers of Saturday, 8th December, 1906, there appeared lengthy articles detailing the work that has been done and is likely to be done, at the Toronto General Hospital, in the treatment of infections by the methods advocated so ably by Sir A. E. Wright.

We have not a word to say against the laudable efforts of the Toronto General Hospital doing all that lies within its power to advance the cause of medical science. To carry on experiments, such as those suggested by Professor Wright, is quite meritorious.

But the results should be given to the profession at a society meeting, or laid before its members through the medical journals. We hardly think that a hospital should load up the lay press with a long discussion on the opsonic index and the new way of treating boils, tuberculosis, etc., etc., and on the preparing of vaccines by the breeding of germs, killing them by a certain degree of heat and then injecting the dead germs in given numbers into the patients. In addition to all this, the names of the doctors who take part in the laboratory part of the work are given very great prominence.

We are sure that if any medical man took this way of making known his work, he would stand a good chance of being driven out of any medical society he might happen to be a member of. We hope it will not be our painful duty to call attention to such methods of seeking publicity for any good work that any of our hospitals may be doing. Fancy the Brown or Lister Institutes indulging in such a display of fireworks.

If any doctor made a medical discovery and rushed into the lay press for the sake of notoriety, he should lose his standing in the profession.

But a hospital seems to belong to those things that appear to have no body to be kicked or soul to be damned.

In future let us have less of this appeal to the lay press about scientific medical work and wonderful operations, which seem so marvellous to the laity, but are matters of routine work to the physician, surgeon and scientist.

A NOVEL WAY OF ADVERTISING.

A rather novel method of advertising a cure for a certain disease has been adopted by a Toronto doctor.

An advertisement appears in the lay press claiming a very satisfactory way of treating a very troublesome affliction, and referring the people to a certain way of securing information by writing to a certain box number.

When this is done, a well-known gentleman writes to the enquirer and gives the name of the doctor.

Now, this is irregular and objectionable in the highest degree. We know the names of the parties concerned in this way of obtaining patients, but refrain for the present from giving them publicity. We assure the parties, however, that such a plan cannot long remain a secret and will do the doctor much harm in the end.

MEDICAL INSPECTION OF SCHOOLS.

From the press of 7th December, 1906, we take the following:—

"Not a dissentient voice was raised when a system of medical inspection of the pupils of the Public schools of the Dominion was strongly advocated by speakers at the meeting of the Local Council of Women, over which Mrs. F. H. Torrington presided, at the Canadian Institute last night. Indeed, all those who joined in the discussion of the question were unanimous in indicating the utility of such supervision over the physical condition of the youth of the land. Dr. Chas. J. Hastings pointed out that by guarding the health of children their mental powers would be preserved. Incidentally he launched an arrow at the system of compulsory test examinations, which he declared a useless abomination. Dr. Chas. Hodgetts, the secretary of the Provincial Board of Health, was also in favor of regular medical examination in the schools and that it should be under provincial jurisdiction and general throughout Ontario.

"The subject was introduced by Mrs. Archibald Huestis, who has devoted much attention to it. She said that the State owed more to school children than a mental education. The object of inspection was to improve

sanitation in the schools and to detect infectious diseases. The project had, she added, the endorsement of parents. In Montreal fifty per cent. of the school children examined were found to be in danger of disease. In Toronto, were the inspection merely directed to the care of eyes and teeth it would be of value."

With the above sentiments we are in full accord. The condition of the schools found to exist in Montreal was far from satisfactory when put to the test of a medical inspection. There is not the slightest doubt but that a thorough examination would reveal many cases of children attending our schools who should, for various reasons, be excluded.

We believe in the old saying that "an ounce of prevention is worth a pound of cure." It is both easier and cheaper to prevent disease than to cure it. We hope the day is not far distant when the various Provincial Governments will take this matter up seriously. Enquiries should not be limited to horses, cattle and sheep alone. It is more important that attention should be paid to the health of our own native-born children than to the importation of a doubtful population from foreign countries. Some money spent in the care of our children will save a much larger sum for funerals, hospitals, and asylums later on. It is not always gold that glitters, and too much education may prove a curse to a country. Professor Allbutt once said that there was hope for a sturdy savagery, but none for a sickly civilization.

AN ACADEMY OF MEDICINE.

There never was a good reason why Toronto should not have an Academy of Medicine; and this position was greatly strengthened by Professor Osler's able address on the advantages of an academy to the profession.

He pointed out the value of the medical college, the medical society, and the medical journal. These had their own place and filled it to the benefit of the medical men.

On the formation of an academy there were different views as to how it should be done. One plan was to create an academy *de novo*. Another plan was to fuse a number of societies into the larger society, or academy. This would suit the case of Toronto.

By a union of the existing societies, the proposed academy would become strong and attractive, and in this way new members could be secured. This strong society could maintain a building with such arrangement of rooms as would enable the various sections to hold their meetings. The special branches of medicine and surgery at present cannot

well afford the expense of keeping up meetings and paying for rooms. Under the proposed plan this difficulty would be overcome.

Then, again, such a society building would be a home for the medical profession to meet in. It would be a place for their library, and where its members could betake themselves for study. Dr. Osler suggested that the present Ontario Library Association might become a section of the Academy.

We go so far as to state that the time has come for the formation of an Academy of Medicine in Toronto. We have always advocated this step. The medical societies would no doubt join in such a move; but suppose any one of them, or all of them, stood aloof, we still say, go on. Make the Academy of Medicine of whole and new cloth if need be.

Dr. A. A. Macdonald moved a vote of thanks to Dr. Osler for his interesting address. Dr. J. H. Richardson, in seconding this, made the slip of saying "Academy of Music," but this gave the venerable doctor the fine opportunity of saying "you know I mean an Academy of Harmony, where we can all unite in a good cause."

Let us all unite in this good cause. Let no jealousies divide our ranks. This is an occasion when we should be one in purpose, one in effort, one in result.

There will be difficulties in the way, but these can be overcome. Indeed, the Academy would not be worth having if it were not important enough to bring with it certain difficulties. These, however, are practically overcome in the splendid start that has already been made. *Felix faustumque sit.*

PERSONAL AND NEWS ITEMS.

Dr. William Warwick has been appointed assistant to Dr. Addy, pathologist to St. John General Hospital.

Mr. Harry A. Daly, a third year student in medicine, University of Toronto, died in St. Michael's Hospital, Toronto, of Bright's disease.

Dr. John R. Parry, of Hamilton, was married recently to Miss Breithaupt.

Dr. S. T. Rutherford, Listowel, has returned and resumed his practice after a visit of nine months in London and Vienna.

Dr. G. W. Crosby, of Dunchurch, Ont., has gone to London for a period of post-graduate study on the eye, ear, nose and throat.

Dr. J. L. Bradley, who has practised in Creemore, Ont., for about twenty years, has removed to Toronto.

It was rumored recently that Dr. A. Primrose intended resigning the chair in anatomy.

Dr. Geo. W. Ross, son of ex-Premier Ross, who spent some years in London, has been appointed to carry on research work in the Rockefeller Institute, New York.

Dr. W. H. Lowry, after a prolonged period of study abroad, has returned. He formerly practised in Guelph, but may devote himself to eye and ear work in Toronto.

Dr. G. W. Badgerow, formerly of Toronto, has settled down to special work on the nose, throat and ear, at 64 Brook street, London, England.

The nurses of the Victoria Hospital, London, are receiving instructions in fire drill from the officers of the fire department.

The Council of Vancouver, B.C., is giving $5,000 towards the sanatorium for tuberculosis.

The General Hospital, Vancouver, B.C., held a nurses' graduation ceremony recently, when eight nurses received their diplomas.

The Jubilee Hospital, Victoria, B.C., has now a complete sun-room, donated by the Daughters of Pity.

The hospital in Wingham is asking for a grant from the county, similar to the one made to the hospital in Goderich of $1,000.

The Woodstock Hospital is in a prosperous condition. It has a balance of $1,551 on hand in the Oxford Permanent Loan.

An addition, costing $75,000, will be added in early spring to St. Joseph's Hospital, Victoria, B.C.

New Westminster, B.C., has plans for a hospital to cost $60,000. It will consist of a central block and two wings.

Mrs. Josph Maillon, of Stoney Point, Ont., is 64 years of age, and has lived for forty years on sweet milk and a little sugar.

McGill University is putting forth an effort to raise an endowment fund of a million dollars. Mr. Robert Reford has promised $50,000 provided the million dollar mark is reached within a year.

St. Michael's Hospital is planning an addition to its present accommodation. When this is completed the hospital will have about 300 beds. This is getting large.

The University of Toronto Medical Faculty has 641 students in attendance in the various classes. This makes the medical department of this University one of the largest on the continent.

The Toronto Orthopedic Hospital has completed a very successful year. The hospital property is estimated at $63,000, with a liability of $25,000. Several nurses received their diplomas.

Dr. R. R. Gareau died in Detroit two weeks ago. He was a prominent member of the profession in that city. He was born in St. Roch, Que., in 1854.

The Alexandra Marine and General Hospital in Goderich was opened on 1st December, 1906. It is reported to be very complete in every respect.

Dr. Fagan, of Vancouver, is doing splendid work in behalf of the Provincial Sanatorium for Consumptives. Success to his efforts is now in sight.

From Montreal the word comes that the Victorian Order of Nurses there is making steady progress and rendering fine service to the poor of the city.

The leper station on D'Arcy Island, B.C., is to be greatly improved. The Dominion Government has taken the matter up and will put the institution in proper condition.

The Isolation Hospital and the Nurses' Home in connection with the Vancouver General Hospital were completed at the beginning of this year.

Fort William has not yet decided whether to give $40,000 to enlarge the present hospital, or for the erection of a new hospital. The question was referred to the people.

L. W. Bremerman, A.M., M.D., of New York city, has been appointed professor of genito-urinary diseases in the New York School of Clinical Medicine to fill the vacancy caused by the death of Professor William K. Otis, M.D.

With the January issue of the *Therapeutic Gazette, Medicine and the Medical Age* will be united into one journal under the joint editorship of Dr. H. A. Hare and Edward Martin, and known as the *Therapeutic Gazette, incorporating Medicine and the Medical Age.*

The medical practitioners of the Counties of Renfrew, Lanark and Carlton have formed an association known as the Ottawa Valley Medical Association. Dr. Preston is president, Dr. Lynch vice-president, Dr. Kelly treasurer, and Dr. McIntosh secretary.

The International Dermatological Congress has appointed Drs. Graham Chambers, of Toronto, and Gordon Campbell, of Montreal, the Canadian secretaries for the meeting in New York on September 9-14, 1907.

Queen's University is making good progress with its endowment fund. Some time ago a movement was set on foot to secure $500,000, and over half the amount has been raised. Mr. Carnegie has intimated his intention of giving $100,000 to the funds of the University.

Drs. D. W. McPherson and Abbott, both of Toronto, sued the Toronto Street Railway Company for services rendered to persons injured by cars. The services were rendered at the instance of employees of the company.

Miss Lilla J. Sheppard, who has been lady superintendent of the Guelph Hospital, was presented with a purse containing $300 and an address on her leaving to take a similar position in the hospital in Berlin.

Dr. McNaughton, on retiring from the Asylum in London for a position at Mimico, was made the recipient of an address and a gold-headed cane, a meerschaum pipe, and cigar-holder. The affair was a very pleasant one.

Dr. McInnis is pushing his scheme for a sanatorium for consumptives for Manitoba. The cost of the building is put at $75,000, and already some of the municipalities have voted $25,000 of this sum. An appeal is being made for the requisite funds.

A serious difficulty has arisen in the Asylum at London. Miss Whitton has resigned her position, and states that patients have been ill-treated. Dr. McCallum, the Medical Superintendent, denies these stories of cruelty to patients.

Dr. McLay, in his report to the Board of Health for Woodstock, stated that the health of the city was good. He stated consumption had decreased. He drew attention to the faulty plumbing put into buildings, and condemned the practice of using preservatives in milk and foods.

Our esteemed contemporary, the *American Journal of Clinical Medicine,* has announced in its December issue that on and after January, 1907, the price shall be $1.50 per annum, and that all who do not pay will be removed from the mailing list. The *Clinical Medicine* deserves thanks for this movement.

The Toronto Western Hospital has opened a new building containing twenty private wards. This puts the hospital in possession of 150 beds, with five buildings on its fine site of five acres. Another large addition will be made during the coming summer. This is good growth in ten years.

Ontario is moving in the right direction by returning the insane and feeble-minded to their own country. For years it has been too common a custom for foreign countries to send out such to Canada. The insane among the foreign population reach a much higher percentage than among our own people.

Canadian Out-Door Life is the name of a new publication issued by the National Sanitarium Association of Canada. The first number, being

for November, has been received and contains a good deal of useful information on the open-air treatment of consumption. The subscription price is $1 per year.

Professor William Osler addressed the Medical Journal Club in Baltimore three weeks ago. He said that his experiences in Oxford had shown him that American students were not as well prepared as the British students. He said that in the United States sufficient attention was not given to the classics.

Dr. W. J. Robinson, in his report to the Guelph Board of Health, states that the deaths were 180 for the year in a population of 14,000. The average of those who died was 39 yars, and of those over 2 years it was 52 years. He stated that consumption was markedly on the increase, and urged a sanatorium for consumptives.

In a letter received from Dr. J. A. Cowper, of Welland, his position is fully set forth in connection with the Welland General Hospital. It would appear that Dr. Cowper is making a praiseworthy effort to secure a hospital for the town, and has associated with him a number of influential citizens. Success will no doubt reward his efforts.

The Hamilton Medical Association held its annual meeting on the 6th of December and elected the following officers: Dr. Ingersoll Olmstead, President; Dr. Storms, Vice-President; Dr. Dave., Corresponding Secretary; Dr. Hess, Recording Secretary; Dr. McNichol, Treasurer. The annual dinner was held on Thursday night, 13th, when Prof. William Osler of Oxford was the guest of honor.

The Board of Trustees of the Toronto General Hospital have decided to engage the firm of Messrs. Darling & Pearson as architects of the proposed new hospital building. Some time ago the board secured a suitable site at the corner of University avenue and College street for the purpose of the new building, and it is thought that the cost of the hospital to be erected thereon will be about $1,000,000.

The Dominion Government proposes to enact a pure food law. This is very necessary. There will be provision for proper inspection of meat-packing houses. Cans must bear the stamp of the inspector to enable them to be exported, or shipped to another province. Recent examinations by the departmental experts show that many samples were adulterated in various ways, or to be decayed.

The police intend to deport all of the undesirable class who come out from England or any other country. After the sentences are passed the detectives propose to inquire into their past records, and see that criminals are sent back to the Old Country. Half a dozen have fallen into the

hands of the police this week, and their descriptions will go forward to Scotland Yard as early as possible.

Apropos of the wide use of effervescent beverages, it is admitted that carbonic acid gas in mineral waters greatly improves digestion, and that this is especially so in the case of Apollinaris, because its mineral constituents give additional help in that direction, so that Apollinaris is by far the best of the few naturally effervescent waters for mixing with whiskey, wine, fruit syrups or milk. The consumption of effervescent liquids is especialy large in Great Britain and the United States.

Prof. Robert Koch, reporting from the Sese Islands, Victoria Nyanza, on his investigation of the so-called "sleeping sickness," the mortality from which has been so great that in many cases all the men in native villages have died, says he has found that atosyl, a preparation of arsenic, is efficacious in the treatment of the ailment. Prof. Koch has 900 patients in abandoned mission houses loaned by the British Government. An idea of the ravages of the disease is given by the fact that the population of the Sese Islands has decreased from 30,000 in 1902 to 12,000.

A statement has been given out by the Provincial Secretary's Department showing that the total amount received on maintenance account from pay patients in the asylums for the eleven months ending with November was $150,370, compared with $122,253 for the corresponding period of last year and $90,841 for the same time in 1904. The total increase for the eleven months of 1906 over the same period of 1905 and 1904 was respectively $28,116 and $59,528. These increases do not mean that there has been a large growth in the asylum population of the Province, but that the systematic collection of accounts inaugurated last year has been maintained with good results. No pressure is being put at all on the relatives or guardians of poor patients, but in cases where patients have estates or where the relatives can well afford to pay the accounts are rendered regularly.

Candidates who have passed the final Council examinations for Ontario are:—J. B. Auston, Brighton; E. W. Allin, Bowmanville; W. C. Brown, Bellview; C. W. Becker, LeGrange, Ill.; T. W. Blanchard, Appleby; R. M. Bucke, London; D. H. Boddington, Leamington; R. B. Burwell, Shedden; W. M. Carrick, Hamilton; R. L. Clark, Hamilton; F. F. Carr-Harris, Somerset Vale, N.B.; J. F. Dunn, Elgin; W. P. Dillon, Ottawa; A. C. Driscoll, Trenton; G. A. Durnin, Westhope, Dakota; J. R. Gunn, Kenora; W. L. Gilbert, Picton; D. A. Graham, Ivan; F. V. Hamlin, Allandale; J. R. Irwin, Toronto; R. M. Johnston, Grassie; J. D. Loudon, Toronto; J. A. Labrosse, St. Eugene; A. E.

Mahood, Kingston; S. A. Moran, Rednersville; J. I. Morris, Hamilton; S. F. Millen, South Woodslee; A. E. Murphy, Phelpston; F. B. Mowbray, Thamesville; A. L. McMurtry, Bowmanville; C. McMane, Toronto; Margaret McAlpine, Toronto; J. McAndrew, Toronto; J. A. McKenna, Toronto; C. E. Preston, Ottawa; C. Powell, Barrie; J. J. Robb, Battersea; E. G. Rawlinson, Toronto; T. D. Rutherford, Delmer; H. E. Schaef, London; E. H. Smith, Toronto; A. B. Smillie, Hensall; H. D. Thompson, Watford; L. A. Truman, Strathroy; F. R. W. Warren, Moose Jaw, Sask.; O. M. Wilson, Athens; A. G. Wallis, Humber.

The Ontario Council elections resulted as follows: Division No. 1, Dr. J. L. Bray, Chatham; 3, Dr. J. MacArthur, London; 4, Dr. J. A. Robertson, Stratford; 6, Dr. Henry, Orangeville; 7, P. Stuart, Milton; 8, Dr. S. H. Glasgow, Welland; 10, Dr. E. E. King, Toronto; 12, Dr. H. Bascom, Uxbridge; 13, Dr. S. C. Hillier, Bowmanville; 14, Dr. A. E. MacColl, Belleville; 15, Dr. W. Spankie, Wolfe Island; 16, Dr. J. Lane, Mallorytown; and 17, Dr. M. O. Klotz, Ottawa. In five divisions there were contests as follows: In division 2, between Dr. John Mearns, of Woodstock, and Dr. J. H. Carmack, of St. Thomas; 5, between Dr. L. Brock, of Guelph, and Dr. Vardon, of Galt; in 9, between Dr. R. Gibson, of Sault Ste. Marie and Dr. Aylesworth, of Collingwood; in 12 between Dr. McCauley and Dr. Thornton; and in 11, between Dr. A. A Macdonald, Dr. J. S. Hart and Dr. B. L. Riordan, all of Toronto. The results of these five contests were that Drs. J. S. Hart in 11, J. H. Carmack in 2, Dr. Vardon in 5, R. Gibson in 9, and Dr. McCaulay in 12, were returned to the Council. The homœopathic members of the Council are Dr. Henderson, of Strathroy; Dr. Luton, of St. Thomas, and Drs. Hardy, Adams and Jarvis, of Toronto. Of the five constituencies in which there were elections, the only one to return the former representative was the Sault Ste. Marie Division, No. 9, in the candidate, Dr. Gibson. The members of the former Council who were defeated are Dr. Macdonald in 11, Dr. Mearns in 2, Dr. Brock in 5, and Dr. Thornton in 12.

Dr. George Bagot Ferguson, who was one of the leading medical practitioners in Cheltenham, died suddenly while performing an operation on a patient at Cheltenham Hospital. In 1901 he was president of the British Medical Association, and he concluded his presidential address with Longfellow's words:—

"There is no death! What seems so is transition.
This life of mortal breath
Is but the suburb of the life Elysian
Whose portals we call Death."

OBITUARY.

M. J. KELLY, M.D., LL.B.

Dr. M. J. Kelly, M.D., LL.B., formerly of Brantford, and well known in Oxford County, passed away in Montreal a few weeks ago, in the seventy-fifth year of his age. Dr. Kelly was a man of superior mental attainments and ability, and for thirty yars was a leading factor in the advancement of education in Brant district.

Assuming the inspectorship of Brant County schools in the early seventies, for thirty years he proved an efficient and accomplished supervisor, giving freely of his time and abiliy in the interests of both teachers and pupils. Under his management the educational standard in the county was greatly increased and the splendid efficiency that prevails to-day is due in no small degree to the foundation which was so well laid a score or more years ago.

Dr. Kelly was born in the city of Quebec in 1834. His father's family was connected for many years with the British Navy. His mother was Katherine Doyle, a near relative of the celebrated Rev. Dr. James Warren Doyle and Chief Justice Bushe.

Dr. Kelly received his early education in Quebec and continued it at the High School and French College, Montreal, and subsequently at Toronto Normal School and Toronto University.

He first took up the arts course in Toronto and afterwards the medical and law courses. He received the degree of M.B., with first-class honors, and subsequently the degrees of M.D. and LL.B. He studied medicine in Montreal, New York, London, Edinburgh, Paris and Heidelburg.

Dr. Kelly commenced his career as a teacher first in the public schools and then in he high schools of the Dominion. Many years ago he declined a mastership in the Montreal high school for private reasons. He afterwards taught in Upper Canada College for some time. He subsequently practised medicine for a short time and also edited newspapers. After teaching in Halton County, Simcoe, and other points, he became principal in Brantford.

Later he decided to study medicine, and in this connection went to the Old Country, where he worked in the hospitals.

In 1856 to 1858 Dr. Kelly was editor of the Brantford *Expositor*, and also made literary and editorial contributions to other newspapers, notably the London *Advertiser* and Hamilton *Times*.

On returning to Canada from his medical studies in the Old Country, he went to Brantford and opened a practice, subsequently returning to

educational work and accepting the position of inspector of Brant County schools in 1871, which position he held until a couple of years ago, when he retired. Deceased was unmarried.

JAMES HENDERSON, M.D.

Dr. James Henderson, a prominent physician of Cobourg, was instantly killed shortly after midnight on 21st December, 1906, at the William street crossing. He was returning from a call on a patient. He was born near Warkworth, Ont., and after receiving his medical degree practised for some years at Grafton, where he built up an extensive practice. About four years ago he gave this up to come to Cobourg, and entered a partnership with the late Dr. W. J. Douglas. The sudden cutting off of Dr. Henderson in the height of his medical career and in the prime of his manhood has cast a deep gloom over the town, where he was most highly respected not only as an eminent and successful physician, but as a most estimable citizen. He was forty years of age and unmarried.

WALTER D. CLEMENT, M.D.

Dr. Clement, formerly of Woodstock, died recently in Toronto. The remains were taken to Woodstock for interment in the Anglican cemetery. Among the mourners was Leslie Clement, the only son, who was *en route* from the West when his father was stricken with paralysis and died. The funeral was a large and representative one.

THE PRESENTATION OF DR. J. E. GRAHAM'S PORTRAIT.

The presentation of a fine oil portrait of the late Dr. J. E. Graham to the Ontario Library Association on the afternoon of the 18th December, 1906, was a very pleasant function. There were few present to whose minds were not recalled both pleasant and sad memories—pleasant at having known Dr. Graham and sad at his untimely death. Dr. Graham was a real force in the medical professional life of this country. His ideals were ever for a thorough study of medical problems, a brotherly spirit among the members of the profession, and the life of a true gentleman. True to these ideals, he lived and died; and we cherish his memory for them.

The portrait is the gift of Mrs. Graham, and Dr. Joseph Graham, the late Dr. Graham's son. It was presented by Dr. Joseph Graham, and accepted for the Library Association by Dr. J. F. W. Ross. Mr. J. W. L. Forster, the artist, has done both his subject and himself much credit in the way he has committed to canvas the strong, yet kindly, face of the late Dr. J. E. Graham.

Dr. William Osler, in unveiling the portrait, spoke as follows:—

Ladies and Gentlemen,—In only one way does the mutability associated so indissolubly with human affairs wring the heart of any sensible man, and that is in the passing of the individuals through whom these changes have been wrought. Return after a few years to a place you have known well, or to an institution which you may have served, and in these progressive days you rejoice to find the improvements for which, perhaps, you had worked, for which you had longed, but which were not for you to see accomplished; but in the sunshine of your joy will come a dark cloud as memory recalls the men responsible for this progress and who have not been spared to see the fruits of their labor. Circumstances have so determined my lot that I have been able to keep in close touch with the places in which I have lived as student and teacher; and one of the great pleasures of my life has been to see the steady growth of the schools of medicine in this city, in Montreal, in Philadelphia, and in Baltimore. But for these transformations the fleeting years exact a heavy tribute in loss of the old teachers and dear friends who clothed these places with human interest. How brief is the space of time in which the personnel of a place alters! As I look back it seems but as yesterday since I was here as a student, and not the wonderful transformation which we see on the University campus, not what we have gained, but what we have lost, the old familiar faces, makes one appreciate the greatness of the change that a few years may make, and the truth of the poet's line,

"Nought may endure but mutability."

In my repeated visits to Toronto there was one man whom I rarely failed to visit, as we had been fellow students and had the same professional interests, and had much in common. James E. Graham had gradually reached the enviable position of the leading physician in this Province, and when cut off prematurely in his fifty-second year was one of the best known teachers of medicine on the continent. We are gathered here to do honor to his memory in the presentation to this library of a portrait which I have been asked formally to accept, and to unveil, and which I hereby do. Though my senior in the Medical School, I was early brought in contact with Dr. Graham through his association with my teacher, Dr. Bovell. In the session 1868-69 every Saturday was devoted to special microscopic work, and Graham, Arthur Jukes Johnson and myself converted the doctor's study into a laboratory. Patients were forgotten by him and we were busy all day staining tissues with Beale's carmine, or striving to fathom the mysteries of protoplasm. They were most interesting and instructive days, and we got much more out of them than the histological technique, and I have often heard Graham express

his gratitude to Dr. Bovell for the inspiration of those quiet mornings. Then for some years we drifted apart, and I did not see much of him until the meetings of the Canada Medical Association brought us together, and after 1880 I began to become intimate with him. This is not an occasion for an elaborate tribute of words—that has already been paid; but I would like to indicate one or two features in his character and career which are of interest and instructive.

Of a quiet, retiring disposition, he reached the top of the profession by steady, earnest work. He never sought what has been called the last insult to a great man, popularity. He reached the public largely through his colleagues, and he has the distinction of being the first Canadian to have had the courage to cut off all family practice and confine himself to consultation. His success should be an encouragement to others who recognize that the way to the top is through hard work in the profession. He had in full measure that deep love of his calling which is the salt savoring a man's whole professional life and without which the practice of medcine becomes a wretched trade. As that good old Frenchman, Ballonius, in the sixteenth century, remarked, "Medicine is a science of devoted service, and it cannot be loved properly without a deep love of man—and men are fickle, uncertain, sometimes ungrateful, very often unjust." He had a keen sense of professional responsibility, and devoted much time to promoting the welfare of the medical societies in this country and the United States. He was always a welcome member at the meetings of the Association of American Physicians and of the Dermatological Society, of both of which he became president. This library was very close to his heart and he felt the importance of it in the development of medicine in this Province.

It was a sad calamity that he should have been cut off in the prime of life at the very time when he had become of the greatest value to the community and to the profession.

It is most appropriate that his portrait should hang on these walls. From it we may recall the features of our dear friend, and can read his mind's complexion in the benign yet strong face. And here we may leave him, surrounded by the books which he loved so well.

And we, his intimates, who knew the sterling worth of the man, know that here we leave him

> "Still loftier than the world suspects,
> Living and dying."

Dr. J. F. W. Ross, in accepting the portrait, said:—

Ladies and Gentlemen,—On behalf of my Board and the members of the Ontario Medical Library Association, I thank Mrs. Graham and her

son, Dr. Joseph Graham, for their handsome gift, the portrait of our late esteemed and revered teacher and confrere, Doctor J. E. Graham, who, at the time of his death, was Professor of Medicine in the University of Toronto. It will be a great pleasure to us to have the portrait of one who was so much beloved hanging on our walls. Sir Joshua Reynolds said: "A room hung with pictures is a room hung with thoughts," and the contemplation of the genial countenance of our late friend must inspire us to efforts not unworthy of the example he has left us. No member of our profession has ever passed away leaving behind him a larger circle of sincere friends. He was a model father, a loving husband, a good physician, a successful teacher and a true friend. We have been endeavoring to obtain the portraits of others who were leaders in our professional ranks, but have not been wholly successful. We trust the presentation of this one by Mrs. Graham will prompt others to add to our modest collection. This is the home of the medical profession in Ontario; here all medical men meet on common ground, and it is the endeavor of the Board of Management to place in the library relics of the past in order that we may have within its walls a continuous history of medicine in Ontario.

On the 28th day of April, 1887, at the regular meeting of the Toronto Medical Society, a committee was appointed to take into consideration the necessary steps for the formation of a library for the use of the medical profession. This committee consisted of Doctors Graham, Pyne, O'Reilly, McPhedran and Wishart. It was decided to approach the Provincial Medical Council for aid. The Council afforded assistance by the allotment of certain rooms for which a very small rental was demanded. Dr. Graham was appointed the first president of the Ontario Medical Library Association, and served in that capacity until June, 1892, when, at his request, he was relieved of his duties and I succeeded him in the presidency. Through the exertions of Dr. Powell, the library of the late Dr. John Fulton was generously donated to our library by his heirs. These books formed the nucleus of the present library. For a number of years the meetings of the Toronto Medical Society took place in the library rooms in the building of the Council of the College of Physicians and Surgeons of Ontario at the corner of Bay and Richmond streets. The first annual meeting was held in the Normal School building. Dr. Wishart, the present treasurer, rendered yeoman service as the first secretary of the Association.

The good work had been begun and an active Board proceeded along the lines laid down by the first president. An effort was made to interest others. Subscriptions were called for with the result that about $11,000

was obtained It is impossible to enumerate all the good friends who assisted us, but I would like particularly to mention Professor Osler, Mr. E. B. Osler, Mr. Chester Massey, Mr. Timothy Eaton, and the late Mr. George Gooderham. I may say that the gifts of all were thoroughly appreciated by the large body of the medical profession in the Province. To-day, for the first time, we have the pleasure of asking you to inspect our stewardship. We have done the best we could. We now have the Library Association on a secure basis, having bought and paid for the property in which you are now entertaind, and having securely set aside a small surplus bearing interest and producing revenue. The decoration and furnishing of the library have been largely paid for by the special gifts of other generous donors, and in this way we have been enabled to reduce the expenditure for maintenance.

To the gentleman who has so kindly officiated for us to-day we owe much. He has been at all times ready and willing to give the Board the benefit of his advice and matured experience, and on behalf of the profession I desire to thank him for coming here to-day and for all he has done for us in the past.

To the ladies just a word to say how heartily we welcome the wives of the members of the Association beneath our roof.

CORRESPONDENCE.

MEDICAL COUNCIL AND MEDICAL PROFESSION.

To the Editor of THE CANADA LANCET:

Dear Sir,—If reports be true, four out of the five old members who had to face a contest for re-election were defeated. In view of this fact, what result would have followed in a general election? To say that 80 per cent. of those elected by acclamation would have fallen in a contest might be quite a fair mathematical deduction, but would not even this heavy percentage be far too low an estimate when we consider that two out of the four defeated candidates were ex-presidents and amongst the most popular and influential members of the whole Council. When such leaders could not face the storm of dissatisfaction where would the "rank and file" have come in? This brings up the question why so many elected by acclamation, if there be, as the contested elections seem to show, a strong undercurrent of opposition to the actions, or want of action, of the Council. Every reader will hold his own opinions, but a brief reference to two potent causes may not be out of place.

I. That worst of all evils that can afflict any electoral body, viz., apathy on the part of the individual electors. We can imprison bribers, but what punishment, short of the prompt use of a club or revolver, could adequately meet the desserts of the physician who, posing with a haughty, self-righteous mien, says: "I don't take any interest in the election of a member of the Council"? The poor weakling who is afraid to vote at all is far less worthy of our contempt than the apathetic elector.

II. The lamentable and inexplicable indifference or cowardice on the part of the entire medical press in not arousing the attention of their readers to the imperative need of securing the very best men available for the Council. We have in our editorial chairs, and associated with these, as intelligent, reputable and progressive a body of men as can be found anywhere in the ranks of the profession, and yet no explanation seems forthcoming as to the virulent nature of those etiological factors that produced the lapse of our entire medical press into a morbid state of quiescence on the eve of the late elections. However, as editors, like women and preachers, pre-empt all rights to have the last word, we hope to hear from them *re* this matter.

The lesson every member of the present Council may draw from the results in the late elections is that he may depend on an aroused electorate being influenced chiefly by two convictions: (1) That their representative is either incompetent or indolent; (2) that too long a tenure of office is liable to cause degeneracy. Let us consider these for a moment. Surely the needs of our profession should be of a sufficient interest to every reputable physician as to make him scorn that class of representative who adopts the *laissez faire* methods of the social club as his rule of conduct when in attendance at the sessions of the Council. When such an one comes around at election time with the glad hand, his selfish claims should be ignored.

III. That too long a tenure often begets degeneracy is a fact well established in our political history. In 1896 the dominant party for eighteen years in Dominion politics, and in 1905 the dominant party in Ontario politics for about thirty-three years, were, through the misdeeds of many of their leaders and followers—using military parlance— put to the edge of the sword by members of their own party. In each case the defeated party went down under its own load of sins of omission and commission. History may have the same sad tale to repeat four years hence, with several members of the present Council, if their future words and acts do not bear the impress of intelligence and of unswerving devotion to duty.

How can the Council and the electorate mutually aid each other? Before every session of the Council, or once a year at least, every member should call a meeting of all the medical men in his district. This would afford an excellent opportunity for an interchange of opinions on all matters pertaining to the welfare of the profession. Many important questions suggest themselves, but time and space will only permit of a brief reference to two:—

I. The standard of matriculation.

II. The decline of medical prestige in the estimation of the laity.

In regard to our educational status, much has already been accomplished by the efforts of the Council, medical press, and by individuals. However, has the time not fully come for a very substant' · "raise" in the standard of matriculation? Most assuredly. The facilities afforded by our colleges and universities for acquiring a very liberal literary training should make it absolutely impossible—as well as a standing disgrace to all the so-called learned professions—for any one to enter these without literary qualifications at least equivalent to an Arts degree from a reputable university. Is it not an imperative duty of the Council to construct a literary course for the medical student that will give him as high a literary status and be of as much value to him all through life as the Arts course does, and is for the student of theology?

In regard to our declining prestige in public estimation, for abundant proof of it we have only to read the decisions of our courts, the editorials in the lay press, and watch the ever increasing drift of the masses towards quackery of all kinds. Whether the reader agrees with him or not, the writer has no hesitancy in saying that the medical profession has very largely, only itself to blame for these untoward circumstances. We have not kept our literary status sufficiently high above that of the laity as to challenge their respect for us as a learned profession. When do we hear this term applied to us outside the court-room, unless when used ironically? Again, has not the routine practice of prescribing drugs, especially at our first visit or consultation, become a sort of fetich with us? Drugs are of inestimable value when properly used, but who would dare say that the routine prescribing of something—drugs or nostrums—for every functional derangement is either scientific, rational or even honest? Has not this morbid habit of ours done much towards creating a delusion in the minds of the laity, that relief or cure can only come through artificial means? They get better,—they have taken faith cure or quack medicine,—they believe it has healed them, and out they go, extolling the miraculous remedy, however worthless it may be. What real distinction between this adulation of faith cure or nostrum, and that over the cure that follows the use of the routine prescription? The patient

gets better, he has taken our medicine, ergo, it has healed him—more often her. She tells all her friends of our great skill and the more she cackles about her cure the more eminent we become, and the more quickly we can "sport" a silk hat and cane, a high stepper and liveried coachman, an automobile, or any other ethical caprice we may deem essential to our professional eminence.

It very often takes more intelligence, experience and courage to keep us from doing the wrong thing than it does to inspire us to do the right thing. When the individual members of our calling have acquired the intelligence, experience, and courage to frankly tell their patients that they do not need an artificial remedy for every functional disturbance that "flesh is heir to"—that the natural forces of the body, aided by proper dietetic and sanitary measures, are the great restorative ones —that the indiscriminate use of so-called remedies is both absurd and dangerous. When we have educated the laity as to the true source from which all relief and healing must come, we will have dealt a death blow to every form of charlatanism and quackery.

God speed the opsonic or any other theory that will teach us, and through us the laity, that Infinite Wisdom has provided His own great natural laboratories for the repair of functional disturbances and that artificial aid is only required when, from one cause or another, these are seriously impaired or broken down.

In conclusion, Mr. Editor, to use sporting parlance, the writer has given you and your readers impressions right off the bat. You and they can either hurl brickbats at them or hand out bouquets, for all he cares, so long as they cause you and them to think seriously over questions of interest to our profession,

Yours,

8 O'Hara avenue.

JOHN HUNTER.

MISCELLANEOUS.

MEATOX, OR POWDERED DRY BEEF.

This preparation is one that will keep indefinitely, and it contains no preservatives. This preparation contains from 65 to 70 per cent. of albuminous constituents. One pound is equivalent to at least five pounds of fresh beef. It may be given along with milk, and is an excellent food for dyspeptics and diabetics. It is highly recommended for sailors and soldiers, who require good nourishment in small bulk and of such a kind as will not spoil by being kept a length of time. There is a slight amount of celery added as a flavoring. It contains some salt, fat, and gelatine. It is prepared by the Drevet Company, New York, under the management of Mr. Charles Marchand.

THE TREATMENT OF COUGH.

Cough, regardless of its exciting cause, is a condition that every physician experiences more or less difficulty in relieving. While the agents designed for its relief are numberless, it is a matter of common knowledge that but few of them are of general utility for the reason that although they may be capable of effecting relief, in doing so they either derange the stomach, induce constipation, or cause some other undesirable by-effect.

The ideal cough-cure must combine sedative and expectorant properties without exhibiting the slightest system-depressent, gastric-disturbing, constipation-inducing or palate-offending action. Nor should it contain any ingredient the prolonged use of which would cause a drug-habit. Then, too, it must be of sufficient potency to produce the desired effect with the utmost promptness, for, in many instances, the patient has indulged in self-drugging to a certain extent before consulting the physician. Hence it is directly to the interest of the practitioner to demonstrate his skill by immediately relieving the disturbing condition.

It is now universally conceded that Glyco-Heroin (Smith) is the ideal cure for coughs of all varieties. This product embraces the most active sedatives and expectorant agents in the exact proportions in which they exhibit their greatest remedial potency. It matters not what the exciting cause may be, the effect of this preparation is always immediate, pronounced and extremely agreeable. The cough is almost instantly suppressed, the expulsion of the accumulated secretions is stimulated, respiration is rendered free and painless and the inflammation of the lining of the air-passages is speedily allayed by its use.

Glyco-Heroin (Smith) may be administered for an indefinite length of time without any depreciation in its curative properties and without the induction of a drug-habit. It is of especial value in the treatment of pulmonary phthisis. It is pre-eminently superior to all preparations containing codeine or morphine.

THE NECESSITY FOR HEMATICS AFTER MISCARRIAGES.

The more one studies the pathological conditions which follow premature expulsion of a fœtus, the more evident it becomes that changes and complications which result from such unnatural termination of a natural process, are little appreciated. There can be little wonder, therefore, that abortions and miscarriages so often give rise to countless female ills, and so frequently lead to lives of more or less chronic invalidism.

Take, for instance, the average case. The whole female organism, as soon as conception takes place, makes preparations to meet the growing demands of the impregnated ovum. The vital processes of both nutrition and elimination are more heavily taxed, and this, of course, means greater activity on the part of the nervous and circulatory systems. Under normal conditions, however, since the female organism is especially designed for the one great purpose, maternity, there is only a modification or increase of function throughout the body. Thus in every sense, in spite of its many complex details, normal pregnancy is purely physiological.

But if for any reason pregnancy is abruptly terminated before the time at which it would normally end, the condition becomes distinctly pathological. Delicate structures, especially those of the generative organs, are suddenly arrested while in a stage of active development, and a retrograde process has to be prematurely established. There naturally follows a marked depression of the whole nervous system, because of its unprepared state for meeting an event unexpected and unnatural. More important than all, however, is the fact that certain growing tissues that would separate normally at the end of pregnancy, in early stages are so closely attached to the uterine wall, that premature delivery always means tearing them away, leaving ragged, lacerated surfaces and an inevitable retention of tissue that because it has no further purpose must be either thrown off or absorbed by the organism. The extreme liability to infection at this time is well known, and is directly due to the predisposition which attends this invariable presence of dead or dying tissues.

From the foregoing, it must be apparent, that the effect of every miscarriage is depressing in character. Every organ cannot fail to feel the pernicous imprint, and there is a logical falling off of every vital process. Because of the formation and absorption of ptomaines and toxins of varying degrees of virulence, there is always more or less vitiation of the blood and dsintegration of its corpuscular elements. While the hemolysis may not be extreme, it is generally sufficiently marked to leave no doubt that it is a prominent factor in determining the duration of convalescence and the completeness of recovery.

In regard to treatment it seems hardly necessary to speak of the importance of thorough antisepsis nor of the frequent necessity of removing decaying material. These things are well appreciated by physicians generally. But what should be emphasized is the great importance of vigorous reconstructive treatment after miscarriages, in order to hasten the restoration of normal conditions, with all that this may mean on a woman's whole future health.

Clinical experience has shown that Pepto-Mangan (Gude) has an especial value in these cases, for it not only supplies the urgent needs of the blood, but directly promotes the elimination of ptomaines through the natural channels. The phagocytic process is stimulated, and as a supply of good active blood is produced, the uterus and related organs are vastly helped in their effort to return to normal conditions. Digestion and assimilation are aided and the general vitality reinforced to a marked degree.

In a word, Pepto-Mangan (Gude) is an unsurpassed tonic wherever there is a lowering of blood quality, from no matter what cause, and the definite positive benefits which follow its administration leave no further recommendation necessary.

THE ONTARIO MEDICAL ASSOCIATION.

The Committee on Papers and Business for the current year is composed of the following members under the chairmanship of Dr. D. J. Gibb Wishart:—

Drs. Ingersoll Olmsted, Hamilton; N. W. Woods, Bayfield; W. J. Bradley, Ottawa; A. F. Tufford, St. Thomas; Angus Graham, London; and H. B. Anderson, R. D. Rudolf, J. S. Hart, T. F. McMahon and F. N. G. Starr, of Toronto.

The committee have secured the promise of Dr. Crile of Cleveland to deliver the address in Surgery. Dr. Crile is Professor of Clinical Surgery in the Western Reserve University.

It is proposed to reinstate the plan of sectional meetings at the next annual gathering, which will be held a week earlier than usual—May 28, 29, and 30th, 1907.

It is intended to secure, if possible, some prominent physician of the United States to give the address in Medicine. While it is as yet too early to speak definitely, it is hoped that we may have one of the English physicians who will attend the meeting of the American Medical Association, which will open a few days later at Atlantic City. The committee has partially drafted a programme which will surely interest every physician of the Province.

MEDICAL DIRECTORY OF TORONTO AND SUBURBS.

Issue of this useful publication for 1907 is now in press, and we feel assured that in the hands of its new publishers (Messrs. Theo. E. Gibson & Co.) a thoroughly reliable guide to the medical and kindred professions and institutions may be looked for.