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THE OPSONIC THEORY AND THERAPEUTIC INOCULATION WITH BACTERIAL VACCINES.*

By SIR A. E. WRIGHT, M.D., F.R.S., Pathologist to St. Mary's Hospital, London,
England.

MEDICINE has come to the point where diseases, as a rule, can be attended, but there are some where it has very little control and where the medical man has to treat by the expectant plan, letting nature do her part in the throwing off of the disease, such as tuberculosis, cystitis, severe cases of typhoid fever, etc. While Prof. Wright was connected with the civil service he studied the problem of resistance against typhoid fever by preventive inoculation, and was very successful in combating the disease. The questions he asked himself were: Why do microbes invade the body, and what does nature do to withstand them? If one places a couple of germs in a culture medium we know that we get millions in a very short time, but there must be some resisting influence in the blood that controls the growth to a great extent. We know that blood which is removed from the body for some time is a good culture medium for the growth of germs, so this resisting influence is only active when the blood is in the body, or when the blood is freshly drawn.

The blood contains two things different from simple media. Firstly, it contains white corpuscles, which have the faculty of picking up, digesting and killing microbes. Secondly, there is a substance contained in the blood plasma which acts against bacteria. The blood can be compared to a weak carbolic solution containing white corpuscles. The School of Metchnikoff believes that the leucocyte is the only element that is actively concerned in the phagocytosis of micro-organisms. Prof. Wright went on to show that it was not the white corpuscles, but that it was a substance contained in the blood plasma which causes phagocytosis. He first separated the corpuscular from the fluid contents of the blood, obtaining the leucocytes suspended in a neutral medium, and the blood plasma free from leucocytes. Then he mixed together leucocytes and some germs, say staphylococcus, and found out that practically no phagocytosis occurred, but that with the addition of the blood plasma a change was effected and phagocytosis took

*An abstract of the address at the opening of the University of Toronto Medical College, 2nd October. Reported by Dr. Herber^t Carveth.

place. Therefore, it was obvious that the leucocyte by itself was inactive, and that the blood plasma contained some substance which was essential before phagocytosis occurred. This substance he called opsonin from the Greek *opsono*, I prepare victuals for, I cater for.

Briefly stated, the treatment of a bacterial infection, by Professor Wright's method, consists in increasing the antibacterial substances of the blood by inoculating the patient with a vaccine prepared by making a suspension of the dead organisms causing the disease, in a normal saline solution.

He then quoted a case of a patient suffering from tubercle. He tested the blood of the patient with pool, *i.e.*, the normal blood of all the men in the laboratory. In every case the patient's blood is compared with the blood of a normal man. Now, by adding bacteria to each, he found out that five bacteria were digested by each normal corpuscle, and that only two and a half bacteria were digested by the corpuscle of the tubercular patient. Therefore, the patient's power of resistance was but half of a normal person, *i.e.*, it was defective in opsonic powers. The reason some people are more apt to take tuberculosis is partly due to the reason that they have a weaker opsonic power to withstand or throw off the infection. How are we to overcome this weakness in some people?—by increasing their opsonic power by inoculation. Take first a case of furunculosis. The man had suffered with boils for four years, and it seemed impossible to get rid of them, so Prof. Wright resolved to try inoculation with vaccine prepared from the germ causing the trouble (*staphylococcus*). He calculated that his resisting or opsonic power was low. The man was inoculated. On the day following there was a diminution of the quantity of opsonins, or a lowering of resistance, which always accompanies the inoculation, and is known as the "negative phase." From this point the opsonic power rose steadily, which is known as the "positive phase." The highest point to which it rises is known as the "high tide" of opsonic power. This "high tide" was a good deal higher than the opsonic index with which he started. Now, while the positive phase was still high, another inoculation was made. A negative phase took place, but not as low as before, then a positive phase, the "high tide" being higher than after the first inoculation, being equal to twice the normal. The clinical result was satisfactory, as, after several weeks' treatment, the boils disappeared. You can see from the foregoing case the control we have in raising the opsonic power to a desired height by a step-like process. The big fault with the inoculation of Koch's tuberculin was that a reinoculation was made during the negative phase

which would have the result of still further lowering the patient's resistance. Great care must be exercised not to reinoculate during a negative phase, and inoculation with tuberculin in a given case should be undertaken at much longer intervals than in a case of staphylococcus infection, for the increase of opsonic power is maintained over a much longer period.

If the bacterial infection be strictly localized, the opsonic index of the blood, as concerns the particular microbe causing the infection, is below normal. But in those cases which are not strictly localized, the opsonic index will be found high at one time and low at another, that is, the opsonic index in systemic infections tends to fluctuate from high to low. These two facts are very important, both as concerns the diagnosis and the treatment of bacterial infections. In the majority of cases of strictly localized tuberculosis, such as cystitis, tuberculosis enlargement of glands, etc., if the lowered opsonic power can be raised the tuberculous process is relieved and controlled; but Prof. Wright would not say cured, because sufficient time has not yet elapsed in most of the cases to eliminate the possibility of a relapse.

Prof. Wright then told of a case of empyema which was treated by resection of part of a rib, evacuation of the pus, and drainage. Seven weeks later the wound was still discharging a large quantity of pus. He examined the pus and obtained a pure culture of the pneumococcus. He determined the patient's opsonic index to the pneumococcus and found it to be normal. In spite of this fact he thought he might do good if he could increase the opsonic index well above normal. He therefore prepared a vaccine from dead pneumococci and inoculated with it. The day following the inoculation, his opsonic power shot up from 1.0 (normal) to 2.5. During the period of two weeks the patient was given three inoculations, and each time the opsonic index was raised. The clinical result was very marked. The discharge had ceased entirely at the end of two weeks, the sinus had closed, and he has remained quite well ever since.

Where cases get better without interference, the body has produced an auto-inoculation, self-inoculation, giving the same results as an artificial inoculation, and raising the opsonic power high enough to attack the germs and get control of the disease.

In cases of a tubercular knee or a joint infected with the gonococcus massage of the joint drives out the toxin into the general circulation and causes an auto-inoculation, which tends to clear up the trouble. Prof. Wright gave the results of a case of infective pericarditis. The temperature was high and had been so for some time. The patient had been treated with drugs and antistreptococcic serum. Prof. Wright here

stated that he did not believe in the use of antistreptococcic serum. The patient was not getting any better, when he obtained excellent results with inoculation. The opsonic index rose, the temperature fell, on the third inoculation the temperature jumped up, which was found to be due to thrombosis in the iliac vein, but citric acid given to dissolve the clot cleared up the trouble in a day or so.

Prof. Wright obtained remarkable results in the treatment of Malta fever by inoculation. The mortality of Malta fever is not high, about two per cent., but it sometimes runs a course of two years, the average being ninety days. It sometimes leaves the patient absolutely crippled. Nature is very slow in this disease in making a protective substance. The inoculation raises the opsonic index and controls the disease in a very short time.

Prof. Wright stated that only the fringe of this work had been touched, and that countless diseases might be tried, such as discharges from the ear, uterine discharges, etc.

The great trouble was the expense involved to treat cases by this method. It may be possible to find a short cut, but that is in the future and a great deal of work has to be done. It is very important to bring your knowledge of bacteriology into your every day practice. The medical practitioner should determine the nature of the infection, and then place the patient under the care of one who could watch the process of immunization and aid this by the employment of the proper vaccines.

PRESIDENTIAL ADDRESS.*

By R. D. RUDOLF, M.D., C.M., Edin., M.R.C.P., Lond., Associate-Professor of Medicine in the University of Toronto.

LADIES and Gentlemen,—I had hoped, by having a distinguished guest here, to escape the ordeal of giving an address, but my Executive were firm in insisting that it was the duty of the incoming president, (I would rather call it the penalty) to open the Session in this way. Hence I will take up your attention for a few minutes, and would ask you to look upon my remarks as a curtain-raiser for the real attraction that is to follow.

In the first place allow me to express my great appreciation of the honor that you have done me in placing me in this chair. The Toronto Medical Society is the oldest as well as the largest Medical Society in the city, and many of us who heard Dr. F. N. G. Starr's address when

*Delivered before the Toronto Medical Society, 4th October, 1906.

he occupied this chair some years ago, and gave us a short account of many of the original members of the Society, will appreciate the fact that the Society has always been the meeting place of the leaders of the profession. In the revised copy of the Constitution and By-laws of the Society, which your Executive have prepared and which are now at your service, we thought it only fitting that the names of the twenty-eight original members should be retained. In the twenty-eight years that have elapsed since they founded the Society under the leadership of Dr. Joseph Workman, more than half of their number have joined the great majority, but several are still with us and take an active part in the work of the meetings.

It is twenty-one years since I entered the study of medicine, and observation during this time as well as the reading of the history of medicine of past ages fills one with pride in the achievements of our profession, and yet, and yet . . .

What fools these mortals be.

And any student of the history of medicine must be struck with the way that we tend to drift with every change of doctrine, so that the way in which any given disease is treated depends upon the time in which it occurs. At one period the fever-racked sufferer is starved almost or quite to death, or perchance is deprived of all fluids, while at another he may be fed to repletion or given water (to wash out the toxins) until he is like an Indian mussack. At the present day even, amongst the Musselmans, no food or drink is given during labor, and I once recorded the case of a poor woman, who had been eight days in labor before I saw her, and who during all that time had been allowed no drop of water or scrap of food. The weather was hot, even for India, and the child had been dead for days.

Or again, a poor creature is seized with bleeding from the lungs—bleed him still more say the practitioners of a certain age; perfuse the blood of a friend say others; give drugs to lower the blood pressure, and so on, all depending upon the treatment in vogue at the time.

Fortunately at the consultation is mother Nature, and whatever the other consultants agree upon, she will act as she has acted since the world began in such cases, and probably will save the patient, and yet get little credit for it.

The over-drugging of a hundred years ago led to Hannehman's swing in the opposite direction, with all its subsequent nonsensical elaborations. Perhaps now-a-days a scepticism towards well tried remedies is creeping in, especially in the German school, which will swing too far and do great harm.

What is the moral of all this? The human body is the same century after century, and disease is the same. The one varying factor consists in the fluctuating theories of the different ages.

Theories are necessary, but they are tricky things and

"Gang aft a-gley,
And lea'e us nought but grief and pain
For promised joy."

Now-a-days with improved laboratory facilities facts can more often be obtained about diseased processes, and surely we must arrive at some conclusions which are true and therefore will stand the searching criticisms of centuries to come, so that if on some theoretical globe a practitioner of to-day meet one of a future century in consultation they will agree upon the diagnosis and treatment of their case,—their theory and practice will be founded upon things that are and not on things as they are imagined to be.

It behoves us, seeing how the ship has been tossed and even wrecked by the winds of theory, to be slow in yielding to every change of doctrine, in changing our course to fit every new theory in physiology and pharmacology, many of which will die a natural death ere the practice founded upon such slight foundation be well established. P. M. Latham, in one of his magnificent lectures delivered some seventy years ago, put the matter thus: "It is not *all* physiology which can be made useful towards the knowledge and treatment of diseases, but only those parts of physiology which are undeniably true. . . . A great deal of what is termed physiology has turned out to be a mistake, and so far as it has got mixed up with our notions of disease (and this has happened to a deplorable extent), it has hindered the progress of practical medicine."

Far be it from me to dare, much less desire to advocate any opposition to physiology and the other sciences bearing upon medicine. They are indeed the very foundations of our work. But let us be cautious in taking as facts what are yet in the experimental stage.

On every side the importance of a certain conservatism in our beliefs is evident. We need indeed strong anchors and secure moorings to stand firm amidst the various gales of theory that would drive us on the reefs of insufficient diet here, or of over-operation or under-dosing there. The winds are most changing and uncertain, but let us steer by the compass of *common sense*, and perchance we may in time reach the port where all that it is possible for man to do for suffering man is done, and people will all reach old age and die of that alone.

For a moment let us look at some marked changes in the theory and practice of medicine and surgery that have occurred in recent years,—at certain winds which have arisen lately, and enquire whether they are safe winds to sail by or whether we must go cautiously.

The first thing that comes to mind is the matter of proteid diet. Many of us heard the discussion upon this matter that occurred in this room months ago. Professor Chittenden then proved with great skill that men can live for weeks without loss of weight or energy upon a much less proteid diet than in generally taken. Professor Woods Hutchison, writing in a recent magazine, is very sceptical about these results, and says: "From the reports of colleagues, who saw the soldiers at the close of their fast, anaemic, nervous, so eager to get back to regular rations that they would say *anything* about their feelings, which would bring the experiment to a close, it strikes me simply as a test of human indurance, like Dr. Tanner's famous fast." This probably is too severe, but Professor Benedict very ably criticises the same results in the last number of the *American Journal of Physiology*. One of the persons experimented upon by Professor Chittenden was a Mr. Horace Fletcher. He was shown not to have lost weight in the six days, during which the metabolic changes were closely studied by Professor Chittenden. He carried out severe muscular exercises, and, from calculations of his food, Professor Chittenden concluded that his daily consumption of food only equalled 1,700 calories, and, since he did not lose weight, that food was sufficient for his needs. Professor Benedict had the opportunity of observing Mr. Fletcher during the experiment. He tested the output of heat by a respiration calorimeter. This output was about 1,896 calories when he was resting and much more when active, and yet he was taking food of a much less heat value than this. He explains the fact that although Mr. Fletcher was using up more tissue than he was replacing by food, and yet his weight remained the same, by saying that each day a pound or two of his fat was replaced by water,—surely a very far from satisfactory state of things. It is evident that experimental evidence to date is far from convincing.

But granting that it be proved now or in the future that a man can, under fixed conditions of climate, etc., live upon a very limited proteid diet without apparent detriment, it does not at all follow that it is *best* for him to do so. This was well put by Dr. Robert Hutchison here, when he said that what we wanted to know was not the *minimum* proteid diet, but the *optimum*. Is the resisting power of people upon the minimum diet as great as upon a more generous one? Is their opsonic index to various microbic invasions raised or lowered? An interesting

experiment was recently conducted in the Japanese navy. All the crew of a battleship upon a certain voyage were put upon a diet containing 91 grams per day of proteid. A second ship was sent upon the same voyage at the same time, and the crew of it were given 155 grams of proteid per diem. It was found that that dread disease beri-beri was much more rampant among the men upon the restricted diet. And now the Japanese sailors enjoy 155 grams of proteids per day. It has been shown that infants at the breast consume some ten times as much nitrogen as is necessary to maintain their nitrogen equilibrium. Is it likely that all children are born greedy and wasteful? Surely rather we may conclude that they act under the wise direction of mother Nature, who slowly teaches a race, by the law of the survival of the fittest, how to act here, as under many other circumstances.

Put a horse, a dog, and a fowl into an enclosure in which are a number of different kinds of foods. Will they all eat the same viands and to the same extent? No; each, under the direction of instinct, will pick out the right amount of what suits it best.

Who taught the nations of the field and wood
To shun their poison and to choose their food?

If we add a man, a human animal, to the party, will he alone err, and poison himself with what nature never meant him to eat? He may err sometimes, having, under his artificial surroundings, acquired certain bad habits, but generally speaking it is likely that man, in spite of his follies and excesses, has still an instinct which leads him to take what is on the whole best for him. His tissues call with a voice that he calls appetite for what they need for their obscure chemical changes.

A change that has crept in very much in the last few years has been in the manner of our prescribing for patients. I do not quite know whether we owe a debt of gratitude or not to the various drug firms, whose agents haunt our consulting rooms armed with samples of new drugs and mixtures, each with their accompanying literature. Certainly we have much to thank them for in the increased palatability of preparations, and for a few synthetic bodies which have proved of value. But what of the hosts of these new remedies, which are dumped upon the market, each with its attractive literature of quasi-scientific ring? I suppose they are all tried upon some patients and yet how few of these drugs survive even a few months of trial.

The Council of Pharmacy and Chemistry of the American Medical Association are doing good work in trying to select those of them that are worthy of attention. Their recent showing up of that preparation

Somnos is an example of their good work. This was advertised as a substance under which "the heart is never depressed, pulse strong, regular, full; respiration rather stimulated, etc.," and yet the Council, after the most careful experimental enquiry, found that the action of Somnos was indistinguishable from that of a five per cent. solution of chloral hydrate.

My old chief, Professor John Wyllie of Edinburgh, used to say, when speaking of new remedies: "Watch the experiments of others who are less cautious than you are, read all about the new remedies, but in your own practice keep two years behind the times," and seventeen years of practice have only emphasized in my mind the value of this, may I say, Scotch advice.

But it is not so much from new remedies that our practice stands in danger. For these same firms, with a whole host of smaller ones following in their wake, turn out ready-made mixtures for the treatment of nearly every ailment to which the flesh is heir. These same mixtures threaten the very art of prescribing, and we are tending to become, what Sir William Gairdner years ago called "penny in the slot practitioners." To recognize that an individual has diarrhoea, and then recommend him to use so-and-so's anti-diarrhoea mixture is not a very high function for a physician, and yet, does not the cap fit sometimes? This prescribing of ready-made mixtures is, as a rule, all wrong, because such mixtures are aimed at the disease, whereas of course the only true method of prescribing is for the patient. It is needless to say how much patients suffering from the same disease may differ and hence call for different treatment.

But things medical have practically stood still as compared to the changes that have taken place in the practice of surgery, since the introduction of anesthetics and antiseptics made things possible that were not formally dreamed of. Yet surgical breezes are not altogether the fair winds that they might seem to be, and while with careful sailing they have been the means of bringing countless crafts to the port of safety, this cannot always be said. At least it is true that many operations dangerous to life have been performed, which further experience have shown to be undesirable. Ovariectomy is not nearly so often advocated as was the case a few years ago, which means that the light of more ample experience shows that at one time it was done unnecessarily. That apparently useless structure, the vermiform appendix, is at present bearing the full brunt of, may I call it, the surgical storm, but the question is whether the practitioners of a future age will sanction what is at present the most frequent practice here. I for one believe that the

tendency will be towards greater conservatism in the case of acute cases. Not that there is any considerable danger in skilled hands, but all hands are not skilled, and here one danger of the advocacy of imperative operation comes in.

So much for the reverse side of the practice of the profession, to which we give our lives. It is not my task, although a much more pleasant one, to descant, as so ably did our President of the British Medical Association this Summer, upon the marvellous strides that have been made in the practice of medicine and surgery in the last few years. Think of the lives that have been saved by antitoxin alone, and of the advances that have been accomplished in cerebral surgery, not to mention the triumphs of preventive medicine such as the checking of yellow fever and the shearing of dread malaria and typhoid of much of their power. My task has been rather, as one of the crowd looking backward as well as at the present, to sound a note of warning lest we, in our haste to relieve the suffering that we see on every side, take as true what is only new. Fashions and theories are uncertain breezes, and, while they are necessary to any progress, must be regarded with a very critical mind, and we should be slow to change any practice, which experience has proved to be of value, merely because some theory, born but yesterday, bids us do so.

After all, most of sound practice, in medicine at least, comes to us from the experience of past ages and is empirical. Very often the explanation of why such things are valuable comes afterwards, but that is of quite secondary importance. Vaccination for smallpox, and the use of quinine in fever and ague are examples of valuable practices that preceded their explanations, and alas! were both violently combatted by so-called scientific medicine. The employment of mercury in syphilis, and of colchicum in gout are yet in the empirical stage. Fortunately practice often rises superior to theory, and what mattered it whether quinine was given because it frightened away the evil spirit of fever and ague or because it was a direct poison to the malarial plasmodium, as long as the drug was given and the fever dissipated.

But time flies, and I would merely urge that, in the midst of so much research and change, we, in endeavouring to improve the practice of our profession, make haste slowly, and in so doing we will reach more surely the goal at which we aim.

We commence to-night a new, the twenty-ninth, Session of the Toronto Medical Society, (and are fortunate in having with us Sir A. E. Wright, a man whose fame has so far gone before him, that, although he comes amongst us for the first time to-night, he seems like an old friend.)

As regards the work of the Session, we have outlined what is hoped will be a very useful programme. On the first Thursday of each month we will meet in the Ontario Medical Library for the reading and discussion chiefly of papers; on the third Thursday of each month we will be the guests of one of the various hospitals where we will have the opportunity of seeing and discussing the most interesting cases at the time in the wards. On the third Thursday in December we hope, however, to have here Professor William Osler, who writes me that he will be glad to give a talk to the profession and I think will advocate the formation of an Academy of Medicine in Toronto to take the place of the at present existing societies. This matter has been before the Executive, who have conferred with the executives of the other societies. Nothing definite has been decided of course, but it is our earnest hope that within a short time and after due consideration an Academy of Medicine will be evolved, of which we will all be proud to be members.

In an ancient society, to which most Edinburgh graduates belong in their early days, there is a rule that each member shall read a paper in turn. His paper must lie on the library table for two weeks before it is read, in order that those who are interested and mean to discuss it, can read it and look up references, etc., so as to be armed for that discussion. This regulation led to the most spirited discussions that I have ever heard. It would be a good rule to have introduced here, but there are difficulties and in any case it could only be proposed at the annual meeting. Let me say to the juniors of the profession, do not hesitate to discuss and if possible cut to pieces any papers that may be read before us. If they can be cut to pieces then it is much better both for the readers and the listeners that such an operation should occur. Not that we expect that any papers not immune to such surgery will be presented, but every communication admits of some pruning, or it may be addition, or elaboration of ideas.

There lives more faith in honest doubt,
Believe me, than in half the creeds.

Remember, our motto is, *Dubitando ad veritatem venimus*. Let us live up to it.

In conclusion let me urge the members to come early. We will begin our proceedings as soon as we have a quorum.

ABSTRACT OF THE OPENING ADDRESS AT MCGILL MEDICAL COLLEGE.

By R. F. RUTTAN, M.D.

IN opening, the Doctor laid particular stress on the fact that this was the seventy-fifth anniversary of the founding of a school of medicine in Montreal:

"Just three-quarters of a century ago four enthusiastic members of the medical profession, Robertson, Holmes, Stevenson and Caldwell, whose portraits adorn our faculty room, began the systematic teaching of medicine in Montreal. After having been instrumental in the establishment of the Montreal General Hospital they founded a school of medicine in connection therewith called the Montreal Medical Institution. The first introductory lecture given in connection with medical education in Canada was delivered in the committee room of the Montreal General Hospital on Monday, the 7th of October, 1822, by one of the four founders above-mentioned, Dr. John Stevenson. The first regular course of instruction in medicine in Montreal was probably given the following year, at No. 20 St. James Street, a small house facing Place d'Armes on the site of the Bank of Montreal. To these four members of the profession, two of whom were quite young men, the fortunes of the first medical school in Montreal and in greater measure, perhaps, than we can appreciate, the destiny of medicine itself in Canada was entrusted.

"McGill College and University, then recently established, raised this Montreal Medical Institution, then but a proprietary school, to the dignity of a faculty in the University, thus enabling its students to obtain a medical degree on completion of their course. This added not a little to the prestige and influence of the infant school. As a faculty are proud to remember and to relate that it was the activity and energy of this young faculty which gave McGill its first impetus towards success, and it is an interesting historical fact that this faculty by providing graduates and actual instruction in the university—so fulfilling a condition of the bequest of James McGill, prevented the reversion of the property of his personal heirs. Thus it can be justly recorded that the Faculty of Medicine preserved to Montreal the great educational centre of which we are all so proud to call ourselves members.

"Hence it is fitting that to-day we remind ourselves what the Montreal General Hospital, this faculty, this university, this city, and even Canada itself, owes to those four members of our profession, who were the pioneers in organized medical charity and medical education in Canada.

The Doctor then went on to deplore the shortness of the medical course, and the amount of time taken up with elementary subjects.

"Two methods," he continued, "of restoring what we may call the educational equilibrium between the laboratories and clinics present themselves. One way out of the difficulty is to require a university training, a degree in arts with specialization in the sciences upon which medicine rests. The alternative method would be to maintain a matriculation standard of education practically as it is but extending the period of study from four to five years.

"The first of these alternatives, namely, exacting a degree in arts with a special training in science as a pre-matriculation education has been adopted by two or three of the advanced medical schools in the United States, who possess very large endowments.

"The other alternative, namely, extending the course to five years and making this the minimum time required for the degree in medicine is the one which has found special favor in England and upon the continent, especially in France and Germany. As you have been officially informed in the Calendar, it is probable that students beginning the study of medicine in 1907 will be required to take five years before obtaining their degree.

"Our benefactors have in the past not only partially endowed this faculty, but have aided us in acquiring well equipped laboratories, teaching museums and a large reference library. These are the necessary but costly features of every great medical school. In doing so they have advanced the thoroughness of medical education and have endeavoured to make the school financially independent of large or small classes of students, and we find ourselves possessed of well equipped laboratories and a large staff of officers of instruction without being compelled to make our class fees prohibitory. Every medical school which to-day hopes to attract and retain the earnest and promising student of limited means financially, must be substantially endowed and must be the recipient of extensive benefaction. The cost of equipping and maintaining a medical school of the first rank has increased far beyond the means of the students of this country to support solely through the payment of fees."

Dr. Ruttan wound up with some sound advice to the freshmen entering upon their medical course, referring to the influence the new college union would have on the lives of the undergraduates.

THE CLIMATE OF PRESCOTT, ARIZONA.

By ISAAO W. BREWER, M.D., Fort Huachuca, Arizona.

THE Town of Prescott occupies a portion of the Valley of Granite Creek and is surrounded on three sides, east, south and west, by the Sierra Prieta Range. The general elevation of this range is about six thousand feet, while the highest peak, Granite Mountain, situated northwest of the town, reaches an elevation of 7,500 feet. The mountains are largely of granite and contain valuable deposits of silver, gold and other metals. The entire range is included within the Prescott forest reserve and is covered on the lower levels with juniper and stunted oaks, while higher up are found large pines.

The town is built on rolling ground. The 4,599 foot contour passing through its centre. The soil is largely of adobe clay with here and there areas of sand.

The creek valley opens to the north and a few miles from the town expands into a broad plain that slopes to the Rio Verde, which at the mouth of Granite creek is about 2,000 feet lower than Prescott.

Beyond the Verde are cliffs of sand and stone which are cut into beautiful canons leading into the San Francisco range, the most lofty of the Arizona mountains.

Although Prescott dates back to June 1864, when it was laid out as the first capitol of the territory, it is a modern town with broad streets, lighted by electricity. In the centre of the town is a large plaza, around it are clustered the business houses, which include several excellent stores, and two banks. The town has modern water and sewer systems. The schools, which include a high school, are said to be excellent, and most of the religious denominations are represented by flourishing churches. There is one large hotel and several smaller ones besides numerous boarding houses. There is also a small hospital and a tent sanatorium has recently been established in a pine grove just west of the town.

Prescott is a town of small homes and the society is excellent. The Yavapia Club is equal to those found in many eastern cities.

The cost of living is somewhat greater than in the east, but the markets afford an abundance of fruit and vegetables which are largely imported from southern California. Some of the finest apples are raised in the Verde valley.

Prescott is the distributing point for a large area and the roads leading from the town are fairly good. The surrounding country is full of interest. Here one may observe mining in all its phases. The great Congress Gold mine is but a short distance south, while to the

northeast in the Black Hills are the famous Jerome Copper Mines. The town of Jerome is reached by one of the most picturesque railroads in the country, and the large mines and smelters located there are worth a visit.

In the valleys east of Prescott are many prehistoric ruins. The most noted being Montazuma's Castle and Montazuma's Pool.

The most direct route to Prescott is via the Santa Fe Railroad, changing cars at Ash Fork. By that road it is about seventy hours from Chicago and Saint Louis, and twenty-four hours from Los Angeles, California. A less direct way is via the Southern Pacific, but it is longer and a change of cars is necessary at both Tucson and Phoenix.

Major Thomason who has been surgeon at Fort Whipple in the suburbs of Prescott for several years, writes me that he has found the climate both winter and summer to be delightful. I have visited the town in summer and winter and fully agree with Major Thomason.

The meteorological observations extend back to 1865, and during a portion of the time are very complete.

The mean atmospheric pressure varies from 24.67 inches in April to 24.79 inches in July, the annual mean being 24.74, which is 18 per cent. lower than at sea-level stations in about the same latitude.

A general idea of the temperature conditions may be obtained from the following tables :

TABLE SHOWING THE TEMPERATURE AND HUMIDITY CONDITIONS AT PRESCOTT, ARIZONA.

	Temperature.										Mean Relative Humidity %.	
	Mean.	Highest Mean.	Lowest Mean.	Mean Wet Bulb.	Maximum.	Mean Maximum.	Minimum.	Mean Minimum.	Mean at.			
									7 a.m.	8 p.m.		11 p.m.
January	35	42	28	28	70	47	- 8	21	24	45	32	59
February	38	43	29	33	70	52	-12	24	27	48	38	59
March	43	50	37	37	80	58	- 9	30	31	55	42	54
April	50	57	45	41	87	65	11	36	37	61	48	46
May	58	69	48	46	95	75	5	42	43	71	57	39
June	66	71	62	52	104	84	25	49	51	81	67	33
July	72	77	67	60	104	88	37	59	61	84	73	51
August	70	73	67	60	101	85	40	58	60	81	70	59
September	64	69	60	53	97	80	28	49	50	77	63	48
October	53	58	49	47	89	69	15	38	49	66	51	49
November	43	50	36	35	80	57	8	27	29	55	39	54
December	37	42	31	33	74	51	- 8	26	27	48	35	62

The following table shows for each season the percentage of the time during the five years from January 1st, 1900, to December 31st, 1904, the maximum and minimum temperatures were between certain critical points :

	Maximum temperature.					Minimum temperature.		
	Above 100.	90-100.	75-89.	40-74.	Below 40.	40 or above.	32-39.	Below 32.
Winter.....	0	0	0	93	7	1	3	96
Spring	0	0	27	72	1	24	33	43
Summer.....	2	45	50	3	0	97	2	1
Fall	0	2	42	55	1	27	23	50

From the tables it is seen that the temperature is liable to reach above 100 in the summer months, but during the past five years it was above 100 on but 2 per cent. of the days. The minimum temperature during the winter months has gone as low as 12 degrees below zero, and the morning and evening temperatures are low but the three p.m. temperature averages above 45. During the summer months the seven a.m. temperature is generally below 66.1, and the eleven p.m. temperature is less than 75. As in most mountain regions the daily range of temperature is very large.

The maximum temperature in summer averages about 15 degrees lower than at Phoenix, and in winter the minimum temperature is about 11 degrees lower.

Dr. J. S. Haldane (1) has recently studied the variation of the temperature of the body in relation to the temperature and humidity of the surrounding air. He finds that when at rest in still air the rectal temperature did not rise above the normal until the temperature of the wet-bulb thermometer exceeded 88 degrees. If the wet-bulb exceeded that point there was a marked rise, irrespective of the humidity of the air. When the air was moving at the rate of 170 feet per second a wet-bulb temperature up to about 93 degrees could be borne without elevation of the body temperature. If at work the critical wet-bulb temperature is 85 degrees.

Considering the temperature observations at Prescott in the light of Dr. Haldane's experiments it will be seen that the mean temperature of the wet-bulb for the summer months, 57 degrees, is 28 degrees below the critical point during work. In other words although the maximum temperature in the shade frequently reaches a high point the appreciable temperature is exceedingly low.

The relative humidity is higher than at Fort Grant, Arizona, and Santa Fe, New Mexico, but is about the same as at Denver, Colorado.

The average date of the first killing frost in the fall is the 20th of October; killing frosts have occurred as early as September 15th. In the spring the last killing frost comes about May 20th, but frosts of sufficient severity to damage vegetation have occurred as late as June 2nd.

Our appreciation of the extremes of temperature depends largely upon the rate of evaporation from the surface of the body. Observations of evaporation are rather crude, only approximating the conditions found in nature. Moreover observations with different patterns of evaporimeters are not comparable. In the study of the climate of Arizona we are fortunate in having a series of observations at several stations in the territory covering the year ending June, 1888. These observations are as nearly comparable as possible, having been taken with the same class of instrument under similar conditions.

During the year the amount of water evaporated was 58 inches, which was very much less than at Fort Grant and less than at any other station in the arid region.

The precipitation during the months of December, January, February and March averages about one and a half inches per month. It rapidly decreases during the next three months and in June averages but 0.23 inches. The summer rains begin about the middle of July and the precipitation for the next three months is 42 per cent. of the total for the year. August is the month of greatest rainfall, the normal being three inches. The precipitation during October and November averages less than an inch. The heaviest rainfall in any one day was 4.20 inches in January. Daily falls in excess of two inches are liable to occur during the summer months. There are occasionally years with very little precipitation. The total for the driest year was 10.20 inches, while the greatest amount for any one year was 26.70 inches, the annual mean being 15.92 inches. The longest period without rain was 88 days.

A study of the distribution of the precipitation in Arizona shows that scattered over the territory there are in the mountains limited areas in which the mean annual precipitation equals or exceeds twenty inches. These areas are covered with pine forests and in them are found the headwaters of the streams that originate in the territory. Glassford has called them "precipitation islands." Prescott is situated on the northern edge of one of these "islands."

The available records of snowfall cover but a period of six years. The average annual fall is 22.4 inches. During January, February and

March the total fall equals about 17 inches, the amount for March being about an inch more than either of the other months. In April and May there is a little snow, but the average is less than half an inch a month. During November and December the average is about four inches. In the valleys the snow rarely remains on the ground for more than a day or two, but in the mountains where the fall is much greater it remains on the ground for several weeks at a time.

The amount of sunshine is of great importance in deciding upon a climatic station for invalids. Unfortunately the records at Prescott are deficient in that respect. The average cloudiness is but 23 per cent. and it varies but little from month to month. The greatest average is 33 per cent. in August, while in June the average is but 13 per cent. During the year 62 per cent. of the days are clear, 28 per cent. partly cloudy, and 10 per cent. cloudy. In July, the month of least sunshine, 50 per cent. of the days are generally clear.

The velocity of the wind varies greatly during the day. About sunrise it is three miles per hour, but as soon as the heat of the sun begins to warm up the valleys the velocity rapidly increases, reaching a maximum of 12.5 miles per hour between one and two p.m. The velocity continues high until after sunset, when it falls, the average during the night being from three to seven miles per hour. The afternoon maximum is very well marked during the summer and spring.

Phoenix with its moderate elevation and mild climate is almost an ideal winter resort for many cases of pulmonary tuberculosis, especially those from the southern states. There are certain cases in the early stages who are used to a more bracing air than is found in the Salt River Valley. For such persons, provided they respond readily to moderate cold, Prescott will be found to be a most desirable resort. Like Flagstaff it is a convenient summer station for persons who have wintered in the cities of southern Arizona. It is not desirable to send to Prescott advanced cases nor those with cardiac complications.

For much of the data used in this report I am indebted to Mr. L. N. Jessunofsky, Director of the Arizona Section of the Weather Bureau. I am also indebted to the Chief of the Weather Bureau for certain data furnished by him.

References:—

(1) Journal of Hygiene, Vol. V, pages 511-512.

THE HEALTH OF SCHOOL CHILDREN.

Abstract by A. J. MACKENZIE, B.A., M.B., Toronto.

IN *The Medical Record*, July 28th, there is an article by Dr. Gulick, Director of Physical Training for the New York Public Schools, on the endeavours of the Board of Education to conserve the health of the children under its care. The problem is one of intense interest for all as the conditions are so varied in every way that some example in the list may be found applicable to almost any town in the world. The population varies from a school with one room and 36 pupils to one 4,363 pupils.

Ventilation.—There has been appointed on the building committee an expert, Dr. Haupt; the plenum system is used, the air being forced into the rooms and finding its way out through vents near the floor; the system is planned on the basis of furnishing 30 cubic feet of air to each pupil per minute. The basis of calculation is 50 pupils per room of 9,000 cubic feet. Recently tests were made in 23 rooms in different buildings and actual measurement showed an income of 1,584 cubic feet per minute, the air being changed in 6 or 7 minutes; the only space where this failed was in corners of the room where no pupils are seated.

Heating.—In the plenum system the air strikes first a series of steam pipes, in use only when the temperature of the room is below 40; these bring the air to this temperature. The air is then passed through two series of steam coils, the upper one at 70, the lower at 68. When the air in the duct falls below 70 the steam is automatically turned into the upper coil; should it continue to fall below 68 the steam is automatically turned into the lower coil also, by means of a thermostat in the room.

Purification of Air.—In one of the new buildings there is installed a system which will be extended to others; the air is brought through a chamber where it is exposed to sprays of water, then drawn over plates where the excess of water is lost, 50 per cent humidity being retained, and in this way all dust and other impurities are washed away.

Accommodation.—There are 70,000 pupils who can attend only part time owing to inadequate accommodation. The reason for this is not so much the financial question or the rapid growth of population in general, but its irregularity. It takes about three years after the need of increased facilities is discovered to provide plans, choose site, have the land expropriated and the new building erected. The school population grows suddenly and enormously in some district unexpectedly with the result of inadequacy.

Lighting.—The standard size of new rooms is 30x22x14, the unilateral system of lighting is adopted, except in corner rooms, and this is rendered possible by the adoption of the H shaped building. The amount of window space is never less than 20 per cent. of the floor area nor more than 25 per cent., the top of the window is 13 feet, 6 inches from the floor, the distance across the room is never over 22 feet, which is less than twice the height.

Vision.—Examinations made in New York show that not less than 30 per cent. of all children in our elementary schools are suffering from ocular defects demanding correction, and not less than 17 per cent. have defects so severe as to be a menace to their progress. These defects are important because they interfere directly with the progress which all these means are taken to further. The treatment rests with the board of health.

Seating.—The largest sedentary class in the world is that of school-children and they are at the period when the greatest harm can result from this inactivity and from faulty position. The attempt is made to have every pupil in a seat that is suitable to his size and then to minimize the time that he sits. In the lower grades less than 50 per cent. of the time is spent sitting down, and only in the last grades is more than three-fifths of the time spent thus. Exercises specially adapted to correct the results of continued sitting are adopted and used at regular intervals during the day.

The adjustment of school furniture is a problem that has not yet been solved for New York City, there are in the rooms adjustable desks placed for taller pupils behind and shorter at the front, but the fact of myopia may interfere with this. It is impossible without very great expense and time to have each pupil specially fitted with a desk, and even were it so, the classes are promoted twice a year. In the congested districts the seats are occupied twice a day by different sets of pupils, and in the two highest grades the pupils go from room to room for different subjects. The proper adjustment would include the following measurements:—Height of knee to adjust the seat; height of elbow when seated to adjust the desk, and adjustment of separation.

Scoliosis.—Scoliosis may be caused by the carrying of greater weight on one side than on the other, and an investigation was made to discover whether the carrying of school-books had anything to do with producing this condition. It was found that 69 per cent. of the pupils carried on their left arm books of an average weight of 5½ pounds, and an attempt is made now to induce them to alternate the two sides.

Over-Study.—The time devoted to the various classes of work has been so arranged as to minimize the danger from over-study or too great

time spent in pure intellectual effort. Thus out of the 25 hours of school-time in the week, when we allow for time spent in physical exercise, music and the more mechanical subjects, there is a remainder of less than two hours per day in the first year class; and home work is interdicted. In the fourth year the time for actual study amounts to less than three hours per day, and home-work is restricted to one hour. In the highest grade three hours and forty-eight minutes a day is given to intellectual tasks, and home-work is limited to one and a half hours. Of course the very great difference in the intellectual abilities of the children makes it necessary to deal in averages, and some children from stupidity must as others from ambition will, exceed the limits and do themselves injury. To help the ambitious child skipping grades is encouraged. Then too, many of the children have to work after hours or for part of the day, and others suffer from mal-nutrition, so that often what seems over-work is traceable to one or other of these causes.

Malnutrition.—Many children suffer to such an extent from this cause that it is impossible that they should make any advance in school, but New York has not so far followed the example of European cities in the providing of food for starving scholars, though it may yet be adopted.

Feeble-Minded Children.—It is found that among the school population of every city there is from $\frac{1}{2}$ to 2 per cent of children so far below grade mentally that the attempt to educate them along with the others is unprofitable. These are sent to a specialist, who considers the cases separately and determines in each case what is the best method to pursue. This is the first step in what will become a larger scheme. Some arrangements are being made under the school board for the education of the deaf, blind and crippled.

Physical Training.—The amount of time that can be spent in physical training in a week of 1,500 minutes is in the different grades:—

I	II	III	IV	V	VI	VII	VIII
50	165	165	150	90	90	90	90 minutes.

This is quite inadequate to attempt any special muscle training, any method of development or any regular athletic exercise, all that must be got outside school.

What is done is to try to overcome the effect of the school-desk by such movements as are most suited and to keep the child in a fit state for his work. The "two-minute exercise" is the commonest and is intended to emphasize deep breathing and to correct position, with movements of the spinal groups and of the hips and shoulders. This is given at the end of each hour in the morning and between the hours

in the afternoon. The second series consists of exercises, the chief emphasis of which is placed on the great muscle groups rather than upon smaller and more complicated ones. These have to be taken in most cases in the school-room and with as little noise as possible, in 83 of the 500 buildings there are gymnasiums, in these apparatus can be used.

The necessity for athletic exercises has called into being an organization, unofficial in nature, called the "Public Schools Athletic League," which has on its board of directors the President of the Board of Education, the Superintendent of Schools, principals, teachers and citizens interested in this matter. Sports are held with contests in different forms of athletics, and an attempt is made to make these of general value by the introduction of "class athletics" in which the contest in *e.g.*, running is entered by all the pupils of a class and their aggregate performance is tested as against that of others, and in this way the inferior performers feel that they have a part in the representation.

Two forms of after-school activity are fostered by the board, the evening recreation centres and the afternoon and evening playgrounds.

Twenty-one schools in congested districts were opened in the evening for games, dancing, gymnastics, etc., and there was an average attendance at these of 7,276 per evening; likewise in the afternoons a large number of gymnasiums and play-grounds were open to the children, with an average attendance of 38,566 per day. During the evenings 11 schools which had suitable roofs opened them to the public, provided bands and supplied supervision, while the seven schools having bath equipment gave a total of 288,387 baths last summer.

Instruction in Physiology and Hygiene.—Instruction is given as to the effects of alcohol and narcotics. A single point of view is taken each year rather than repeating the same matter with each class. In the fourth year the general topic of good health; the fifth year, emergencies; sixth, health from the standpoint of the dweller in towns, contagious disease, water supply, etc.; seventh year, the usual physiology and hygiene; eighth year, the question of personal habits, personal control and the like are discussed.

Ideals.—Dr. Gulick suggests the following as aims toward which we should strive:—

(1) There should be individual care, personal inquiry and knowledge of the home life of the lower tenth of every class; this includes those who for some reason fail twice of their promotion.

(2) We need to have the consecutive records of all children as to age, height, weight, eye, ear, nose, throat, heart, lungs, etc.

(3) The size of classes should be decreased so that the nervous strain upon teachers shall be lessened and greater possibility of individual interest and attention.

(4) There should be a minimum of 30 square feet of playground for each child.

(5) There should be an open-air playground within walking distance of each child.

(6) Special classes should be organized for defective children of all kinds.

THE VARIOUS GROSS PATHOLOGICAL CONDITIONS OF THE URETHRA AS REVEALED BY THE URETHROSCOPE.*

By NOAH E. ARONSTAM, M.D.,

Professor of Dermatology, Michigan College of Medicine and Surgery; Member Wayne County Medical Society, Michigan State Medical Society, Medico-Legal Society (New York), etc.

THE urethroscope is a valuable means in the diagnosis of the various pathological conditions affecting the male urethra. What may seem obscure on a cursory examination, may, with facility, be recognized when the above instrument supplements our investigations. The affections of the urethral canal are not as uniform as was commonly believed heretofore, as a great number of causes may give rise to identical symptoms. Should we fall into the routine of treating the effects instead of the causes, the results will be far from successful.

The rational and appropriate treatment of the different morbid states of the urethra presupposes, (1) a knowledge of the technique of urethroscopy, both anterior and posterior; (2) a familiarity with the normal and pathological aspects of the canal, and (3) the particular method of treatment suitable to each individual case.

We distinguish between *anterior* and *posterior* urethroscopy. The former constitutes the examination of the anterior urethral segment, i. e., the first six and a half inches of the canal; while the latter is directed towards the exploration of the remaining one inch and a half of the urethral tract.

The following is the technique of urethroscopy, both anterior and posterior:—It is superfluous to say that the urethroscopic tube—the anterior of which is straight, while the posterior is somewhat curved, with a fenestra in its curve—must be scrupulously clean and thoroughly sterilized in boiling water. After having sufficiently cooled down, it is lubricated with a lubricant, composed of a decoction of

*Read by invitation before the Northern Tri-State Medical Association at Put-in-Bay, O., July, 1906.

Irish moss to which a small quantity of some antiseptic agent has been added. The patient is then put in the recumbent posture, the meatus and glans penis cleaned with a mild antiseptic, and the tube introduced gradually and slowly without much effort on part of the operator. No force should be used in inserting these tubes, save the most gentle propelling motion, taking care not to lacerate the delicate mucosa of the urethra. Should the canal prove impassable on account of an abnormally small calibre or the presence of strictures, it should be previously made patulous by gradual or forcible dilatation with sounds, until it admits number 24 (French), when the urethroscope will readily enter the canal; the obturator is then withdrawn, the little lamp inserted, the coil attached at both ends and the battery turned on, when the lumen of the canal will spring into view. If the patient is very nervous the canal may be anæsthetized with a two per cent. solution of cocaine. The normal appearance of the urethra is that of a *uniform pinkish hue*, without any appreciable variation throughout its length.

The scope of this paper does not permit the author to enter into an exhaustive discussion of the different lesions elicited in the anterior portion of the urethra by urethroscopy. However, the most salient features of the different pathological conditions will be briefly enumerated below:—

(1) An *abrupt* change of the pinkish hue of the mucous membrane to that of an anæmic or colorless shade would suggest a stricture in its formative or organized state.

(2) *Small puncta* studded here and there throughout its extent, indicate an acute or subacute inflammation.

(3) *Livid areas* denote a chronic inflammatory state of the urethra.

(4) *Granular spots* are not infrequently detected; they are of great significance, as they suggest an affection *sui generis*, termed *granular urethritis*, a malady very obstinate and resistant to treatment.

(5) *Lines or bands* of a dark red color which may be regarded as the formative stage of the so-called linear stricture.

(6) *Superficial erosions*, commonly found within the first inch and a half of the urethra near the navicular fossa.

(7) *Ulcerations* of various type, both superficial or deep, may also be discerned by the urethroscope.

The tube is gradually withdrawn, when the fenestrated field has been thoroughly inspected, until the entire length of the urethra has been successively viewed. The small lamp causes but little heat and occasions no irritation or sensation of burning. Should, however, the patient complain of a smarting or burning feeling, then the battery

should be turned off for a moment, after which inspection may be resumed.

After the tube has been withdrawn, the meatus and glans are again washed with some antiseptic solution and the patient given a capsule, composed of two grains of quinine sulphate and five grains of urotropin, in order to prevent urethral chill, which is occasionally apt to set in in nervous individuals. *Urethroscopy should never be attempted in acute inflammatory conditions of the canal, lest a great deal of harm be created in doing so.*

Urethroscopy is a diagnostic means of especial value in *chronic inflammatory states of the posterior urethra*, pre-eminently so in *granular inflammatory involvement of the latter*. To detect and properly interpret the particular morbid conditions affecting that part of the canal means half of the cure achieved. The lesions of the posterior urethral tract are nearly the same as those already mentioned in dealing with the anterior urethra, with the exception of erosions and ulcerations, which are not so prone to appear in that particular location. Once the morbid condition is ascertained, the treatment readily suggests itself to the intelligent physician.

To enter into a full discussion of the latter will require more time and space than has been allotted to the author under the present circumstances. Suffice it to state, however, that the eradication of certain pathological states as determined by the urethroscope is but a question of time and perseverance on the part of both the patient and physician, so greatly is the treatment facilitated by the procedure above delineated.

106 East High Street, Detroit.

DIRECTIONS FOR NURSE AND HOUSE PHYSICIAN, BURNSIDE LYING-IN HOSPITAL, TORONTO.

THE following directions have been prepared for the Burnside department of the Toronto General Hospital. They bear the initials of Dr. Adam Wright, which is sufficient guarantee of their excellence.—
Ed. CANADA LANCET.

I. DIRECTIONS FOR NURSE.

Patient on Admission.

Have the patient undressed at once, and her cast-off clothing placed in a receptacle, from which it is to be taken for fumingation.

Let her then take a warm tub-bath, after which she is to be dressed in hospital clothing.

Then make a record of her pulse, temperature, and respiration. Take pulse and temperature morning and evening while "waiting," and record everything abnormal.

Preparation After Onset of Labor.

Give soapsuds enema.

Give warm bath.

Let patient then put on a nightgown and remain in bed until examined.

Prepare delivery room and table.

Have at hand sterile towels, gauze sponges, absorbent cotton balls, thread for cord, three basins for solutions of sterile water, mercury bichloride, and lysol or cresoline, scissors, and two clamps.

Place small portable table near bed and operator.

Further Preparation of External Genitalia.

After patient is placed on operating table:

Put Kelly's pad under buttocks.

Cut short all hair at sides of vulva, and all hairs above long enough to reach the vulva.

Give a vaginal douche of green soapsuds at about 110 degs. F.

Scrub the lower abdomen, pubes, vulva, perineum, buttocks and thighs, using green soap; then wash with warm sterile water, then with bichloride solution.

During the scrubbing process, wash from before backwards, i.e., towards the anus.

Then place a bichloride guard over the vulva.

If labor is advancing too rapidly to allow all these procedures, omit the douche, but, if possible, cut short the hairs at side of vulva, and wash vulva and adjacent parts.

Then remove the Kelly pad, and place under back, buttocks, and thighs a fresh sterilized draw-sheet, and an absorbent gauze pad under the buttocks.

In prolonged labor give a second rectal enema in two hours after the first.

If there is any operative interference, wash the external genitalia again, and put on the Snively stocking-drawers.

The patient's legs are then to be held or fastened with leg-straps, as directed by the operator.

Catheterize only when directed by the obstetrician, the house physician, or head nurse.

Management of Patient After Labor.

Wash the external parts first with warm sterile water, then with bichloride solution, then cover with bichloride pad retained in place by T-bandage, or fastened to binder when applied.

Change vulvar pad as often as necessary, *i.e.*, before it becomes saturated with blood, sometimes every hour, for a few hours; after one day, every four to eight hours for a week.

When changing pads, wash the parts with a bichloride solution for seven days, and with soap-water after seven days.

Give a cathartic on the evening of the day after labor.

Note the height of the fundus uteri, and keep the daily involution line.

Prop up on pillows the head and shoulders for a few minutes, twelve hours after labor, and afterwards three times a day for seven days. Allow patient to sit up and void urine on and after second day, if she desires, unless there has been a perineorrhaphy, in which case the nurse will be instructed by the attending obstetrician. Allow her to sit up in bed on and after the fifth day, if she desires. Do not allow her to get out of bed earlier than the tenth day, and not then if the fundus is still above the pubes, unless by order of attending obstetrician.

Eclampsia Before, During, or After Labor.

Remove false teeth, if present.

Prevent patient from injuring herself; use several pillows as buffers.

Prevent her from biting her tongue, by covering an ordinary clothes-pin or large spoon handle with gauze, and holding it between the teeth during convulsion.

Darken room if possible, and keep the patient very quiet.

If there is much blood or mucous in mouth and throat, turn patient on her side, with head in a position to allow liquids to run out of the mouth.

Hæmorrhage Before or During Labor.

Keep patient absolutely quiet; elevate the foot of the bed.

The New-Born Babe.

Weigh the baby at once, anoint with albolene, examine the cord for bleeding, the head for meningocele, etc., the back for spina bifida, etc., the limbs for talipes and other deformities, the whole body for birth-marks, etc., notice if babe turns blue, and examine for imperforate anus.

Bathe the babe as soon as convenient, and thereafter every day; apply dry dressing with boric acid over cord, remove this dressing and apply a new one after each bath.

If babe weighs less than five pounds, anoint with albolene and wrap in flannel or cotton wool, or both, taking care to keep it very warm until ordered by the attending obstetrician to wash and dress it.

Let babe nurse every six hours during first day, every four hours during second day, and every two hours for twenty minutes during third day and thereafter, except at night, when he should nurse at half-past ten, half-past four, and in morning, half-past eight.

Take the temperature twice every day.

Weigh baby before each daily bath.

II. DIRECTIONS FOR MEDICAL ATTENDANTS.

Directions for House Physician.

Examine each patient on day of admission, especially as to condition of heart, lungs, and kidneys, and also general health and record.

If there is any nasal or vaginal discharge, have a bacteriological examination made, and record the results.

Examine by abdominal palpation for position and presentation; also make external measurements by pelvimeter; record results as to both palpation and pelvimetry.

Examine specimen of urine furnished by nurse on day after admission, and every seventh day thereafter up to time of labor, and daily if there is headache, nausea, anasarca, or any other abnormal condition.

Preparation of Attending Obstetrician and Resident Physician.

Cut the nails short; wash hands and arms in hot water, using green soap and nail-brush; cleanse well under and around nails; rinse in sterile water and then in a one per cent. solution of lysol or cresoline. Keep one of these solutions in a sterile basin on the small table beside the operator, and rinse hands from time to time. Put on operating-gown. The attending obstetrician may, and the intern must, wear rubber gloves in making vaginal examinations, which shall be as few as possible.

Management of Patient in Latter Part of Labor.

Let the patient lie on her left side during the last expulsive pains, and let her turn on her back while the child is being expelled, or immediately after its delivery.

Keep one hand on fundus, press gently or irritate slightly with finger-tips, without using force.

After separation and passage into vagina, or after thirty minutes, endeavor to express placenta by pressure on fundus.

If placenta is retained, send for attending obstetrician, but in case of emergency, such as serious hæmorrhage, introduce gloved hand and extract.

In all other cases of retained placenta, place a bichloride guard over vulva, and wait until an attending obstetrician arrives, but at the same time watch for hæmorrhage.

Tie cord after pulsation has nearly ceased, or in five minutes.

Examine placenta carefully, measure and weigh.

Report all injuries and tears of the soft parts to an attending obstetrician, who shall treat or instruct as to treatment.

Management of Patient After Labor.

See that directions for the nurses are properly carried out.

See that patient gets a cathartic on the evening of the day after labor.

Watch carefully the uterus for involution.

Keep patient in bed not less than nine full days.

Direction for Cases of Emergency.

Eclampsia.

Use mouth-wedge at once.

Give hypodermic of morphine at once, half-grain, also another hypodermic, quarter-grain, in half an hour, and a third hypodermic in one hour if convulsions are not controlled in the meantime.

See that patient is kept very quiet, and protected from cold and drafts.

If the patient becomes conscious, give calomel, 3 grains, as soon as possible, and magnesium sulphate, 2 drachms, every half-hour.

If not effectual within two hours, order, 1, 2, 3 enema (Epsom salts one ounce, glycerine two ounces, water three ounces), and also continue salts by the mouth until bowels are well moved.

After bowels are evacuated, administer high enema of salt solution, one pint every hour until three pints are injected, or use colon irrigation, if directed by attending obstetrician.

Apply hot packs on kidneys.

Hæmorrhage Before or During Labor.

Keep patient absolutely quiet.

Elevate foot of bed.

Give hypodermic of morphine, quarter-grain.

Repeat hypodermic of morphine, half-grain, in fifteen to thirty minutes if necessary.

Give adrenalin 1-1000 solution, M. 10 by mouth or M. 5 hypodermically. If serious bleeding continues, and membranes are unruptured, plug the vagina, keep pressure over fundus uteri, and give three salt solution enemata, one pint each, at intervals of one hour.

Hæmorrhage After Labor.

Massage fundus uteri so as to express clots.

If uterus cannot be well contracted, and hæmorrhage is alarming, introduce the gloved hand into uterus, clear out clots, and irritate uterine walls with finger-tips, and massage externally.

If the uterus is well contracted, and serious hæmorrhage continues, look for bleeding points in lacerations of perineum, vulva, pelvic floor, other parts of vagina, and cervix.

Use of Forceps.

No house physician shall use the forceps without the permission of an attending obstetrician.

Do not apply the forceps until the cervix, vagina, vulva, and perineum are dilated and softened.

After dilatation, apply the forceps within three hours in primiparæ, and within two hours in multiparæ, if nature has not completed delivery.

In using traction on handle attached to traction-rods, pull intermittently, and if considerable force is required, occupy not less than twenty to thirty minutes in delivering the head, taking the time from a watch or clock.

As soon as the head commences to press on the pelvic floor, remove leg-holder and allow extension of the thighs, etc., allow legs and thighs to hang over the end of the labor-table.

The Use of Anæsthetics.

No house physician shall administer an anæsthetic without the permission of an attending obstetrician.

In all serious operations, and in all operations on patients in a serious condition from disease or other cause, an official anæsthetist shall administer the anæsthetic.

The term "attending obstetrician" refers to the individual members of the visiting Burnside staff, and to all physicians who have charge of patients in the private wards.

All obstetricians in charge of private patients are requested to observe these rules :—

Examine every male child on the seventh day after birth, to ascertain the condition of the prepuce. If found adherent, "strip" the glans, and secure, if possible, a prepuce freely movable. If this cannot be done after using the prepuce-forceps, and a probe or director, report to an attending obstetrician, who shall see that circumcision is done if required.

During labor and the puerperium, record, or let nurse record, as far as possible, the following:—Length of first stage, length of second stage, length of time before expulsive pressure is used over the fundus of the uterus, length of time of such pressure, total length of third stage, time of washing of vulva, time of application of abdominal binder, time of putting patient in bed, time of first weighing baby, time of first washing baby.

In forceps delivery, record when forceps are applied, when head is extracted, when body is expelled or extracted.

In all other operative procedures record length of time of operation.

Remarks.

When Solon gave laws to the Athenians, he was asked, "Are these the best laws you can frame?" He answered, "No; but they are the best laws that the Athenians can keep."

We have endeavored to profit by Solon's wisdom, and have tried not to frame rules that are too elaborate. The tenure of office of our nurses and house physicians is very short, and the frequent changes make the training of the staff somewhat difficult. We find that a printed set of rules, which are to a large extent similar to those used in other maternities, especially in the United States, is very serviceable in many respects. We have made our rules simple, and we hope they will prove useful for our young graduates.

We have considered for several years that it is difficult or impossible to keep the Kelly pad perfectly sterile, and we use it only to a limited extent. We therefore remove the Kelly pad after preparing the patient for labor, and place under the patient a clean draw-sheet and an absorbent gauze pad.

For many years we used no vaginal douche before or after labor in normal cases. Recently, however, we commenced the administration of the antepartal douche, as was the custom years ago in the Burnside. We do not use a douche of any kind after labor, unless there is some special indication for it.

Our rule as to the vulvar pad after labor is to change it as *often as necessary*, instead of every four or six hours, as was once our custom. Our aim is to change the pad before it has become saturated

with blood, *i.e.*, before the bed-clothing has become soiled. Frequently changes, sometimes every hour, are generally required during the first twenty-four hours after the completion of labor.

We administer a cathartic earlier than we did a few years ago, with benefit, we think, to our patients. The height of the fundus is noted daily, and the involution line has been carefully kept on our ordinary charts for the last six years, according to the custom of Queen Charlotte's Hospital, London, England. The head and shoulders are propped up on pillows for a few minutes three times a day, to favor free vaginal drainage.

In cleansing the hands of the obstetrician, and the genitalia and adjacent parts of the patient, we have discarded alcohol, for two reasons, its use involves considerable expense and some inconvenience, especially for the general practitioner who does not, as a rule, carry alcohol in his obstetrical satchel. So far as our observations show, we get along as well without it.

As to antiseptics, we still use the bichloride of mercury to a large extent. We have used lysol for some years, and are now using cresoline to a limited extent. Professor Amyot, of Toronto University, conducted a series of experiments for us last winter, and found that the germicidal powers of lysol and cresoline were strong. They are both commercial preparations, somewhat similar in nature, being saponified cresol mixtures.

In fixing a time limit after the Dublin fashion, we do not mean that in all cases the operator should wait for two or three hours after complete dilatation before applying the forceps, but we do mean that he should never wait longer.

Our chief aim in making rules as to certain time records is to secure uniformity in methods of procedure. For instance, we don't want a muscular and strenuous house physician to pull the head over the pelvic floor and through the vulva in five minutes. We don't want him to guess as to time, but use his watch, or the clock on the wall beside him, so as to know what progress he is making in a given time.

—A. H. W.

PROVINCE OF QUEBEC NEWS.

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

Medical inspectors for the schools of Montreal have been appointed at last, and the following gentlemen have already taken up their duties :— Drs. Martigny, Warren, Verner, Tufard, Gagne, Opzoomer, Mason, Dulphe, J. D. Mason, Wilson, Gillathie, Brown, Nelson, Laurie, Donnelly, Mullally, Scanlan, Prendergast, Conroy, Monette, Lapointe, Gagnon, Lefebvre, Bournier, Desmarais, Grenier, Gagnier, Cartier, Bourdon, Cousineau, Archambault, Richer, Lacombe, Hanfield, Bourgoin, Denis, Rosseau, Vilcourt, Lemieux, Malouf, Asselin and Leduc. The duty of the inspectors is not only to see that scholars do not attend school who may have infectious diseases, etc., but to see that school buildings have complied with all the health laws, and that they are properly ventilated. The inspectors are appointed till the end of the year, and when the new civic appropriations are voted an effort will be made to get sufficient money so that they can be appointed for the entire year. Although the inspectors have but started their duties, a remarkable state of affairs has already been revealed in regard to overcrowding of certain schools, especially private schools, and in addition the number of diseased children attending class is vastly greater than could have been imagined. The following are among the things noted in the first inspection.

Fifteen per cent. of pupils at one school suffering from defective eyesight.

Fifteen per cent. at another school affected with enlarged tonsils and adenoids which required operative treatment.

Forty pupils crowded into a classroom where the cubic contents of air barely sufficed for fifteen.

A pupil suffering from measles attending school—with the result that fifty per cent. of the scholars were infected.

Large numbers of children with well marked tuberculosis attending school.

Several schools in basements not fit for use in this manner.

The private schools seemed to be in general worse than the public schools, especially in regard to overcrowding and the use of apartments unsuited to the work.

The preliminary reports of the inspectors, although incomplete as yet, amply demonstrate that the inspection has been begun none too early.

The first regular meeting of the Montreal Medico-Chirurgical Society, for the session 1906-7, was held in the Society's rooms on October 5th, and took the form of a smoking concert.

The annual report of the retiring president, Dr. F. R. England, was read, and it pointed out that although the losses of the society by death had been so great during the past year, yet a most successful year had been spent and the interest in the meetings had been sustained. The following officers for the year were installed:—President, Dr. F. G. Finley; Vice-president, Dr. Wesley Mills; Treasurer, Dr. A. T. Bazin; Secretary, Dr. D. H. Gordon; Trustees, Dr. Jas. Bell, Dr. H. S. Birkett and Dr. Jas. M. Jack.

After the president's address there followed a good programme of music and the meeting broke up with every prospect of a good session's work in view.

The report of the semi-annual meeting of the College of Physicians and Surgeons of the Province of Quebec has been published, and contains a great deal of interesting matter for the local physician.

The financial statement was satisfactory, the total receipts being \$8,525.69, and total disbursements \$5,126.12, leaving a balance of \$3,399.57. There are now 1,838 physicians inscribed on the register of the college, of whom 1,602 are in actual practice in the Province. Several law suits have been taken out by the medical associations of different districts, and nine charlatans were arrested, of whom seven were fined and two are awaiting judgment.

Two questions of importance have come before the executive committee. First, in regard to a five year medical course. Consultation with Dr. Jobin, the representative in parliament, resulted in the postponement of this measure. Secondly, the nomination of a committee to draft urgent amendments to the Medical Act. It was agreed to proceed with this nomination at once, as urgent amendments to the Medical Act were required in regard to the following points:—

1. To form a Central Board of Examiners.
2. To raise the curriculum of university studies from four to five years.
3. To amend the Taschereau Bill.
4. To better define the Council of Discipline.
5. To better define that part of the Medical Act concerning illegal practice of medicine.
6. To grant subsidies to medical associations and draft other amendments.

The death of Dr. James Stewart has removed one of the greatest names from the list of Montreal's physicians. He had been in poor health for about two years, but the final illness lasted little more than a week. An apoplectic stroke was the cause of death.

Dr. Stewart had a distinguished career. Born in Osgoode, Russell County, in 1846, he was educated at the Ottawa Grammar School, afterwards entering McGill University to prosecute his medical studies. He graduated with honors in 1869, and subsequently studied at Edinburgh, Vienna and Berlin at different times, and in 1883 obtained his L.R.C.P. and L.R.C.S., Edin. He practised in Brucefield, Ont., for some time and then moved to Montreal. During his studies on the continent Dr. Stewart did special work in nervous diseases and he was best known by his knowledge of this branch of medicine, in which he was recognized as an authority. From 1883 to 1891, Dr. Stewart was Professor of Materia Medica and Therapeutics at McGill University. In 1891 he was appointed to the chair of medicine and clinical medicine. On the opening of the Royal Victoria Hospital he was appointed physician-in-chief and still held this position at the time of his death.

In addition to the positions of distinction which Dr. Stewart held in Montreal and at McGill, he was recognized abroad. He was honorary president of the section of medicine at the second Pan-American Medical Congress, held in Mexico in 1896, and he was also president of the American Medical Association in 1901.

Dr. Stewart's chief medical works were "Treatment of Heart Affections" and "Nervous Diseases," besides which he wrote numerous papers for many medical journals, among others *The British Medical Journal*, *The Philadelphia Journal*, *American Medicine*, *International Clinics*, *The Montreal Medical Journal*, and the CANADA LANCET.

Always a good friend of the student, Dr. Stewart will be greatly missed. A firm and just judgment, taciturn manner, and a somewhat gruff exterior, hid as kind a heart and good natured a mind as was ever found in man. Kindness to his patients and students, with impatience and un pitying sarcasm for humbug and impudence characterized his clinics. His observation was exceedingly acute and he gathered more information simply by the eye than most men could by a complete examination of the patient. His therapeutics were simple, and he hated "shot-gun" prescriptions. "Never give a drug," he used to say, "unless you have a very good reason for doing so, and then give sufficient to be of some use, and give it in the simplest way you can." He gave his house-men at the hospital great freedom in the way of treatment of the patients, but he expected them to have every detail of every case in mind whenever he required the information. Instances innumerable could be mentioned of his acuteness in clearing up a diagnosis, but space forbids, and we can only regret how inadequately an article can express the loss which, not only Montreal, but the whole country, has sustained.

CURRENT MEDICAL LITERATURE

MEDICINE.

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

FORMALDEHYDE IN INTERNAL THERAPEUTICS.

Although as a disinfectant formaldehyde has received well-merited attention, as an internal remedy it has been avoided owing to the well-founded belief that it is poisonous and highly irritant. This seems to be a misconception as is shown by Rosenberg, of Berlin, in the *Therapie der Gegenwart*. He states that pure formaldehyde from the point of view of a chemical toxin is quite innocuous and that its irritant action is very superficial and with appropriate treatment becomes quite abolished. In 1896 after experiment on animals the writer tried it on himself for several weeks, and has since used it in hundreds of cases without any untoward action or result. Van Zorn reports a case in which a concentrated solution of formalin was taken by mistake, severe inflammatory action was present, still the patient was quite well in five days. A long time is required to produce an irritant effect on any surface; and the toxic action has never been clearly separated from the irritant so far as to prove that it has any toxic action whatever.

For the internal administration some method is necessary by which irritant action will be prevented, and this can be accomplished by its combination with substances from which it is slowly liberated, as starch, dextrin, all albumins, sugar, menthol, and all terpenes. Jacobson fed a dog on a substance composed mainly of milk-sugar containing two per cent. of formaldehyde, so that the dog got 3.2 grm. of pure formaldehyde daily for ten days without producing any effect toxic or otherwise.

Formaldehyde passes into the blood in known quantity, it forms in all probability a union with the albumin of the blood, as animals extensively treated with the drug show a darkening of the blood; in blood containing bacteria part of it goes to the destruction of the germs and their toxins.

The writer administers the drug in a saturated solution of milk-sugar to the strength of five per cent. A teaspoonful in a wine-glassful of lemonade was given hourly as a dose. A drawback to this was the unpleasant taste, and so a tablet containing .01 grm. of formaldehyde with milk-sugar, menthol, pepsin, and correctives, has been made which has a pleasant taste and is well taken by children.

The drug has been used with acceptance in a variety of conditions, including scarlet fever, diphtheria, erysipelas, pyæmia and cystitis; and without doubt further uses will be found for it.

LIFE AFTER RECOVERY FROM PHTHISIS.

Arbogast (*Zeit. für Tuberk.*) points out the dangers which beset a phthisical patient after he has been dismissed from a sanatorium as being from a clinical point of view sound, and he comments on the habits of sanatorium life in order to decide which of them must be gradually abandoned and which must be to some extent always retained. Among those to be abandoned as harmful after recovery are: (1) Over-feeding; (2) excessive limitation of exercise; (3) excessive fear of fresh infection; (4) idleness. Continuous over-feeding is condemned as causing such diseases as fatty heart, gout and indigestion. When combined with too little exercise for a long period the danger is more marked, and in any case constipation is likely to become a prominent symptom. Excessive fears are to be deprecated; the most difficult fear to lay is that of the bacillus, and we see patients who scent danger in every corner of a room or a carriage, in every carpet, and in every speck of dust. The resumption of work by the patient as soon as possible after recovery is of great importance, both from the physical and psychological points of view; naturally, however, occupations which have predisposed to the contraction of phthisis are not to be amongst those at once resumed. While, as we have seen, some of the sanatorium habits are to be discontinued, others should be carefully adhered to. The first of these mentioned is the daily rubbing down with cold water, to which the author attaches considerable importance. Again, regularity of life is a habit to be retained, although it should not be allowed to develop into pedantry. There should be great moderation in drinking and smoking, and while walks, mountain tours, and a certain amount of riding and driving cannot be too strongly recommended, games which lead to over-strain are to be avoided. The manner of life of the recovered patient must, of course, vary between wide limits. As a rule, the Sunday and perhaps one afternoon in the week should be given to recreation, the time for going to bed in an ordinary way should be between ten and eleven o'clock at night, and early rising should be the rule.—*British Medical Journal*, June 23rd.

HEART FAILURE AS THE RESULT OF UNDERFEEDING.

In the *Medical Record*, May 26th, Dr. Haig, of London, discusses this subject, which takes a new interest from the investigations of Professor Chittenden. He finds that while starvation of the body by insufficient albuminous food may go on for weeks or even months without any sign being given by the muscle of the heart and the cells of the brain, they are being saved at the expense of other parts of the body,

and the time comes when sudden collapse under unusual exertion, or general incapacity tells of the harm that has been done. Such treatment is often undertaken without advice, from the reading of books or magazine articles, to reduce weight or remove the uric acid from the blood, as the laity are now quite learned as to this.

The signs of heart failure are a failing pressure, with usually an accompanying rapidity of pulse; there is also a prolongation or may be a reduplication of the first sound over the septum between the ventricles and to the right of the apex beat. Debility from underfeeding comes on insidiously, and it is only by comparing the fitness for exercise with what it was some time before that a conclusion can be reached. A chronic state of this form of debility is seen in those in the lowest industrial classes, who are constantly underfed and at times are on the verge of actual starvation, the heart shares in the malnutrition, it dilates under strain, and never again are they equal to any useful work, while their physical condition is reflected in their unfortunate mental attitude toward their condition, a true pauperization.

Anæmia of varying degree and subnormal temperature are other signs of this condition. For these reasons the writer considers it dangerous for anyone to produce less than three grains of urea per pound of body weight per day, or to take less than the amount of albumin requisite for this production, viz., nine grains per pound of body weight daily. He admits the possibility of exceptions, but it must be proved in any given case that he can live for a length of time up to standard on the suggested amount.

THE SERUM TREATMENT OF THYROIDISM.

J. Rogers, New York (*Journal A. M. A.*, September 1), gives the results of therapeutic experiments made with a specific serum prepared by separating the nucleoproteids and thyreoglobulin from the human thyroid gland and injecting these bodies into the peritoneal cavities of rats, dogs, or sheep. The inoculations are continued at intervals of five or six days for about six weeks and the animals are then bled from the carotid. The serum thus obtained is presumed to contain an antibody or cytotoxin which is specific in its action on the thyroid epithelium and an antitoxin for the thyreoglobulin which is believed to be the toxic product of the gland. The latter, however, has only a theoretic existence, while the former can be demonstrated in a test tube. He speaks here of two sera used, one a pathologic one obtained by inoculating rabbits with the combined nucleoproteids and thyreoglobulin of pathologic glands; the other, called a normal serum, obtained from the inoculation of normal human glands. The pathologic serum at first seemed

the most hopeful, but experience proved the differences to be less important. Rogers is in hopes that the normal serum can be made still more efficient than it has been. The statistics are given of 71 patients treated, 11 of whom have been completely cured, 42 more or less improved, 15 failed to improve as yet, and 4 died. Three of the patients who died apparently improved at first, one died following a subsequent operation made to hasten recovery, another after apparently improving, dropped dead, the autopsy revealing a pronounced status lymphaticus. The third died from a hemorrhage into the respiratory center, which was considered by the author to be independent of the treatment. The fourth patient was losing ground and died shortly after the administration of the serum, which differed from that used in the other cases by being derived only from the nucleoproteids, and hence a pure cytotoxin. In a number of the improved cases he thinks that the patients are really cured, but he does not feel warranted in definitely ranking them as such. The acute toxic cases with fever seem to do best with the least serum and to show the least reaction, while the chronic toxic cases with severe symptoms are less amenable to the treatment. The atypical chronic class have generally proved therapeutic failures and the psychopathic and neuropathic types have necessarily a poor prognosis unless the toxemia is checked before organic nerve changes occur. The reactions that take place and the details of the administration of the remedy and the precautions to be employed are given in detail and four of the histories, including two of the fatal ones, are reproduced in full. The others, Rogers states, are detailed in the Transactions of the Association of American Physicians for 1906.

THERAPEUTIC SERUM FOR EXOPHTHALMIC GOITER.

S. P. Beebe, New York (*Journal A. M. A.*, September 1), reports the progress made by him in his experiments for the production of a therapeutic serum for exophthalmic goiter since his former paper was published (see *The Journal*, Feb. 17, 1906). From these later experiments he says that it may be safely concluded that a serum having a high degree of specificity can be prepared by injecting the purified nucleoproteids of a given organ into some animal of alien species. They also prove that absolute specificity can not be attained by this method, and he believes by no other. At the time of his first report, Dr. Rogers and he had used only the serum obtained from the thyroids of fatal cases of exophthalmic goiter.* Since then they have experimented with the serum derived from normal human glands obtained at autopsy, and the method of their preparation and the obtaining the serum are detailed at length. Three species of animals, rabbits, sheep and dogs, have been

used for developing the serum, chiefly large buck Belgian hares which were found to give the best serum. For some reason, dogs were found to be not well adapted for this purpose. Experiments having shown that the agglutinating power of the serum is in a remarkable degree parallel with the local and constitutional reaction produced, a means of comparative standardization is afforded. As regards any hemolytic action of the serum, Beebe thinks it improbable with the therapeutic dose, though he admits that it is possible that it may be greater in the living body than *in vitro*. Clinically he has observed that the serum treatment causes an increase in the percentage of hemoglobin and the number of erythrocytes, possibly due to the general health improvement and not to any direct action on the blood-forming organs. The therapeutic use of the serum is based on the theory that exophthalmic goiter is a toxemia and that the toxin in question is the thyreoglobulin. This theory best explains the striking results obtained in some acute cases with soft thyroids, probably in a state of simple hypertrophy and containing a large amount of colloid matter with but a slight increase in the number of cells. The majority of cases, however, are of the chronic type, and do not show at once this rapid improvement. The gland is more cellular and the cytotoxic element in the serum, in the small doses given, is probably too feeble to cause immediate or rapid diminution of the gland. More rapid destruction, moreover, might be dangerous in these cases. There is some reason to think that the serum does have a cytolytic effect; the main fact is that there is a reduction in the size of the gland, and in a few cases it has been restored to apparently normal size. There is an advantage in having two sources of the serum; in some cases treated at first effectually with sheep serum for a considerable period, it became ineffective to control the exacerbations that then occurred, but these were promptly controlled by the use of the serum from rabbits. It would seem that here the long continued use had developed in the patient an anti-antitoxin, and he was thus made largely immune. The immunity, however, evidently did not extend to the biologically different antitoxin. In cases requiring long continued treatment, an occasional change in the biologic character of the serum may be required. Beebe does not find from his investigations and the therapeutic tests that there is any radical difference between the normal and pathologic serums. More study and testing, however, are yet required positively to settle the question, which is an extremely complex one. If the hypothesis regarding the antitoxic and cytotoxic properties and their dependence on the injection of thyreoglobulin and nucleoprotein respectively, is correct, it will be advisable to vary the activity of the serum in respect to these two factors to meet the indications in different cases. Experiments are being made as to this question, but no

statement of results can as yet be given. Considering all the facts, Beebe thinks it fair to conclude that the serum has considerable value in the medical treatment of exophthalmic goiter. The improvements and cures under its use have been too numerous to be ascribed to coincidence, and he believes that under favorable conditions much can be accomplished by careful serum therapy.

THE THERAPEUTIC VALUE OF CHEWING GUM.

The habit of chewing a resinous substance after meals as an aid to digestion is very prevalent in the United States of America and in Canada. The preparations in most demand are known under the names of "chewing gum," "pepine gum," and "pepine." The custom is not unknown among Eastern peoples; thus, in India betel nuts and areca nuts are mixed with lime and used in a similar manner. In a recent number of the *Bulletin des Sciences Pharmacologiques*, Dr. L. Meunier has given the results of an investigation into the physiological aspect of the chewing habit, and has drawn attention to its value in therapeutics. As a result of masticating a piece of chewing gum containing a small proportion of alkali the flow of saliva is increased to five or six times the usual volume. Herein lies the therapeutic value of the habit in cases where the gastric juice is excessively acid and so hinders the digestion of starchy foods. The acid is partly neutralised by the saliva, which is thereby enabled to convert the starch into soluble products. A number of patients were put on a diet of 60 grammes of bread and 250 cubic centimetres of water per meal for two consecutive days. A masticatory consisting of an aromatic resin was given after each meal on the second day only. The gastric liquid was analyzed half an hour after each meal, when the amylolytic change was considered to be complete, and the figures show that the masticatory had in all cases increased the quantity of soluble products produced from the starchy food. Allowing for the dilution of the gastric contents by the increased flow of saliva the figures obtained in ten cases showed a gain of from 30 to 40 per cent. in the soluble starch products due to the use of a masticatory substance. Dr. Meunier has obtained satisfactory clinical results in all cases of hyperacidity treated by him during a year, which tends to show that the American custom of chewing gum, though based on empiricism, may be supported on scientific grounds. Dr. Meunier does not state the exact kind of resin which he employed, but mastic is a suitable substance for the purpose. It is the resin obtained from *Pistacia lentiscus*, a small tree growing in Scio and in other islands of the Grecian Archipelago, where the resin has been produced from

very early ages. It is mentioned in the works of Dioscorides and Pliny. It occurs in small rounded tears, pale yellow in color, with an agreeable aromatic odor and taste. When chewed it readily forms a tenacious mass which does not stick to the teeth, and so can be retained in the mouth for a considerable time.—*Lancet*, April 28th.

GYNÆCOLOGY.

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

ABDOMINAL HYSTERECTOMY FOR CANCER OF THE CERVIX UTERI.

La pointe (*La Clin.*, August 24th, 1906) finds that results from vaginal hysterectomy for cancer leave much to be desired; he attributes this to an operation which does not remove, with the tumor, all the lymphatics and tissues involved. He recommends Wertheim's operation, which aims at the removal of the uterus, the adjacent cellular tissues and broad ligaments, coupled with systematic extirpation of the lumbar and pelvic glands. Discussing Wertheim's operation, he advises that the cervix should be prepared before the operation is begun, by destroying the surface of the cancer with the thermo-cautery. The Trendelenburg position is adopted, and the incision is made in the umbilical-pubic line. The uterus is seized and drawn up, either by forceps or by passing two strong ligatures through it, the appendages and round ligaments are ligatured and divided, the vesico-uterine peritoneum is incised and peeled off as far down as possible with the aid of curved scissors. At this point the operation of hysterectomy for cancer begins to differ from hysterectomy for fibroma, for the fundamental principle in abdominal hysterectomy is to divide at a distance from the cervix, and to remove the uterus and parametrium when possible in one single mass. To do this it is necessary to isolate and preserve the ureter. It lies behind the broad ligament of the postero-lateral margin of the pelvic brim; in the process of dissecting it out the finger hooks round the uterine vessels where they cross it. They should be ligatured and divided as near their origin as possible, and the dissection of the ureter is then carried down to the bladder. In advanced cases the ureter is so involved in the cancerous mass that it is not possible to set it free, and it must either be resected and a uretero-cysto-neostomy be performed or the kidney must be removed or the operation abandoned; this is, however, rarely necessary. The next step is to draw the uterus upwards and forwards and to sever the sacro-uterine ligament and the peritoneum of Douglas's

pouch. With the fingers all the adjacent cellular tissue behind and round the mass is detached down to the pelvic floor, the uterus is then only attached to the vagina, which it is required to divide some distance below the cervix; this is done with great care to prevent cancerous debris or secretions from infecting the peritoneum and exposed cellular spaces. To avoid this danger two methods have been employed; in one the uterus is pushed down into the vagina, the peritoneum is sewn together above it, and the final removal is made through the vagina. The other is practised by Wertheim: the vagina is cleaned and dried from below, the wall is then seized between clamps placed on either side and as low as possible of the cervix, and divided; finally, if any hypertrophied glands are felt, they are removed. A vaginal drain is inserted and the abdomen is closed. It is particularly necessary to stop all hæmorrhage and oozing before closing, as a precaution against sepsis.—*B.M.J.*

THE CERVICAL STUMP IN SUPRAVAGINAL HYSTERECTOMY.

Cullen, Baltimore (*Jour. Amer. Med. Assoc.*, 1906, March 10), advises that after supravaginal hysterectomy for myoma, before the cervical stump is sewn up, the mucosa and myomatous nodules in the uterus should be examined to exclude malignant disease. To illustrate the importance of such an examination he mentions a case in which the uterus was removed for what were supposed to be simple interstitial and subperitoneal myomata. Two years later the patient collapsed suddenly owing to hæmorrhage from a sarcoma which had developed from the cervical stump. Re-examination of the original tumors disclosed typical sarcomatous transformation of the myoma.

TUBAL PREGNANCY WITH CERVICAL CANCER.

Pokrowski (*Zentralb. f. Gyn.*, 1906, S. 466), reports the case of a woman, aged 26, admitted into hospital complaining of profuse bleeding and pains in her hypogastrium. She was found to have a cancer of the collum, and a tumor the size of the fist in the right side of the pelvis, the nature of which could not be defined. She had been delivered normally of one child. She had been ill for ten days, severe pain and genital hæmorrhage having come on six days after her last menstruation. On laparotomy, the tumor proved to be a dilated and ruptured sac of the right tube, and it was removed with the ovary, the cystic left ovary also, and the carcinomatous uterus. After the opening of a small abscess in the lower end of the wound, which caused some rise in the evening temperature, she made a good recovery, and was discharged on the 24th day.

SIMULTANEOUS INTRA- AND EXTRAUTERINE PREGNANCY.

Gangolf, Lyon (*Zentralb. f. Gyn.*, 1906, No. 19, S. 567), reports : A patient aged 40, who was married when 23 years old, had been pregnant eight times, once with triplets, but on the other occasions without anything peculiar. She complained of constant hæmorrhage for six weeks (before that time her periods were always regular), and of sudden attacks of abdominal pain and vomiting. Examination revealed a condition of retrouterine hæmatocele, the cervix close behind the symphysis was relaxed and half open, the body could not be properly felt. There was colostrum in her breasts, and a slightly elevated temperature. The tumor was opened from the vagina and plugged. Nine days afterwards a four months' fœtus was expelled from the uterus by sudden and forcible labor pains.

 STERILITY : BILATERAL SALPINGITIS ; OPERATION ; CONCEPTION.

Young (*Ann. of Gyn. and Ped.*, 1906, June) reports : Mrs. A., aged 36, had been married twelve years, but had had neither child nor miscarriage ; negative menstrual history ; had good health in early life ; she broke down from overwork just before her marriage. In 1889 and in 1893, and at varying intervals since, she has had severe attacks of pain and tenderness in right hypogastrium with fever and prostration. In September, 1903, she sought advice for rather profuse menstrual flow with excessive leucorrhœa and the general symptoms of neurasthenia. She was unable to attend to her household duties and had recurrent attacks of pelvic pain, had lost flesh and weighed only 105 pounds. Her uterus was large, boggy, with tender masses each the size of a lemon on either side and marked tenderness over the appendix. Operation was deferred till November, when she had materially improved. After curettage, a median abdominal incision disclosed ovaries and tubes agglutinated into an adherent mass on either side behind the uterus, filling the pouch of Douglas. After a tedious dissection both ovaries were found normal, both tubes occluded, filled with clear fluid and 1.5 inches in diameter. Both tubes were amputated about 1.75 inches from the cornua, and the mucosa and serosa stitched together at the end of each tube. Both ovaries were secured in their normal position. The appendix was removed, it contained three concretions and about half a drachm of pus. The patient made an uneventful recovery and weighed 150 pounds a year later.

Her menstruation ceased on January 29, 1905, she quickened in May and gave birth to a female child weighing eight pounds on November 7th. She had a normal childbed and is reported to be in good health.

OBSTETRICS AND DISEASES OF CHILDREN.

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

PREMATURE SEPARATION OF THE PLACENTA FROM ITS
NORMAL POSITION.

In the University of Pennsylvania *Medical Bulletin* three cases are recorded by W. Nicholson, in which premature separation of the placenta took place. In the first case the symptoms were not noticed until the latter part of the second stage. The foetus was born dead and the placenta was removed without difficulty.

The second case was an VIII-para. In her eighth pregnancy the hæmorrhages began at about two and a half months and occurred at short intervals, frequently taking place when the patient was lying quietly in bed. A vaginal examination made at three months showed nothing abnormal, the cervix not being markedly softened. The hæmorrhage was sufficient to affect the pulse and cause a certain amount of pallor. In the third month there was a sudden increase of the uterus within a few days to within three finger's breadths of the umbilicus. There was some nausea and vomiting. The patient was taken into the hospital for observation, as the uterus continued to very rapidly increase in size, where after a short time a diagnosis of cystic degeneration of the chorion villi was made, the patient returning home without anything having been done, but was admitted again on account of hæmorrhage. Within ten days the uterus rose to two finger breadths above the umbilicus and the pulse was continuously over 100 per minute. Dilatation by means of the Bossi was then employed under anæsthesia and two small foetuses together with a mass of placental tissue were removed. The further history was uneventful.

Case three was a multipara in her eighth pregnancy. The first symptom developed early in the seventh month. There was hæmorrhage but no pain. On examination the os was found permeable and the membranes ruptured. There was a marked downward bulging of the anterior vaginal wall and an appreciably increased tension and a distinct feeling of doughyness. This was subsequently found to be due to a collection of blood in the uterus, which was prevented from escaping by the head of the child. She was removed to the hospital, a diagnosis of placenta previa being made. She walked upstairs and there was no shortness of breath or cyanosis. In the hospital a more careful examination led to a diagnosis of premature placental separation. Within an hour there was evidence of cardiac failure, the pulse being over 150.

Manual dilatation was attempted with the intention of doing a podalic version. This proving impossible, forceps were applied to the head without success. The woman's condition becoming rapidly worse, a craniotomy was done at once, and even then the child could not be withdrawn because of some obstruction higher up. Careful examination showed that the child's abdomen was enormously distended. This was perforated and about a pint of fluid escaped. The child was born without difficulty. The infant was found grossly deformed, one of its legs being larger than a normal full term child's, and the toes of this foot being webbed, while the abdomen was greatly increased in size from some cystic malformation. The mother's condition improved after delivery, but shortly after manual removal of the placenta, which was slightly adherent at one portion, she suddenly died, death being apparently due to shock.

The author refers to the history of the condition and especially to the work of Kaltenback and Veit, who suggest that the condition arises as a result of serotinal inflammation and degeneration. Traumatism, in the opinion of the author, while it may account for a few cases, has a secondary casual relationship, changes in the decidua layers of the ovum being the true origin of the condition. With regard to the question of diagnosis, the author considers that two symptoms are of importance. These are pain of a kind of "bursting character" and bleeding from the genitals.

Shock should not be waited for before a diagnosis is made. The peculiar and rapid enlargement of the uterus associated with marked tenseness of the uterine wall is of great importance. The author says that any woman who presents an aberrant form of pain during her pregnancy, particularly if near term, should be looked at with suspicion. With regard to treatment, the author holds that the membranes must be preserved in all cases until the cervix is so dilated that there is no doubt but that delivery can be rapidly effected after their rupture. The tampon has no place in the therapeutics of this form of bleeding. The only treatment is emptying the uterus as quickly as may be consonant with the safety of the woman and of the woman alone. The author divides severe cases occurring late in pregnancy into two groups according to the dilatability of the cervix. When the os can be dilated rapidly, either by nature or by the Bossi, and the actual delivery of the child secured by forceps, version or craniotomy, this is the proper treatment. It is a good plan to perform craniotomy in such cases upon relatively slight indications, as the life of the child is practically always destroyed in the type of case under discussion. With a rigid unobliterated cervix the author believes in dilatation by means of the Bossi instrument until the diameter of 6 cm. is attained, and then followed by the

so-called vaginal Cæsarean section, delivery being accomplished by version, craniotomy or forceps, according to the indications. In certain cases abdominal Cæsarean section would probably be the best operation. When this is the case, hysterectomy should follow, as in many cases there is a marked degeneration of the uterine wall with associated endometrial change.

THE MANAGEMENT OF PROLONGED FIRST STAGE OF LABOR.

Dr. F. S. Clark, in the *Cleveland Medical Journal*, September, 1906, records several cases of delay in the first stage from various causes. The treatment adopted is obstetrical in character and contains nothing either new or original, but shows that the author has an appreciation of the physical factors of labor. The cases are chiefly advanced primiparæ of nervous disposition in which delay took place through faulty dilatation of the os. In one or two of them dry labor or hydramnios were complicating factors. The standard remedies, chloroform, chloral and morphine were employed. Of the three the author prefers morphine properly used, one-quarter of a grain being made use of at several short intervals until the control of the uterine contractions is obtained. After a period of rest, liquid nourishment, and hypodermics of strychnine, gr. 1/30, with hot douches, not only stimulate the uterus to contract but leads to softening of the cervix. Ergot should never be used, and quinine has never proved effectual. In the author's opinion the mother's temperature and the fœtal and maternal heart rythm should be carefully watched. Such midwifery means less infection and less suffering to the patient.

INTUSSUSCEPTION.

The *Scottish Medical and Surgical Journal*, August, 1906, has a most interesting synopsis on the subject of Intussusception.

Henry J. Dunbar writes on Acute Infantile Intussusception, the paper being based on a series of 59 cases occurring in the records of the Edinburgh Royal Hospital for Children. After a review of the anatomy and pathology of the condition the author records in detail seven cases which have come under his own immediate observation, of which one child died, aged four months, operated on 24 hours after the onset of the first symptom. The other six cases, varying in age from six weeks to two years nine months, all recovered after operation. The author notes that most of the patients were healthy, well-nourished children. In three cases out of the whole 59 was there any hint that the child was delicate or ill-nourished.

Males constituted 74.6 per cent. of the cases, and females 25.4 per cent. Only four of the cases were over two years of age, 62.7 per cent. were between four and seven months, and 20.3 per cent. between eight and twelve months. The mortality of the cases under four months was 25 per cent.; between four and seven months, 59.4 per cent.; between eight and twelve months, 33.3 per cent.; between one and two years, 100 per cent.; over two years, 75 per cent. The total recoveries were 45.7 per cent., and deaths 54.3 per cent. None of the cases in which portions of the bowels were resected recovered. Of those operated on within 24 hours after the onset, 63.3 per cent. recovered, though a successful case is recorded where the operation was performed 107 hours after the onset of the symptoms. The ileo-cæcal form of intussusception was found in 76.3 per cent. of the cases.

The symptoms usually develop with great suddenness, though in 42.3 per cent. a history could be obtained of indefinite gastro-intestinal disturbance for 24 hours preceding the attack. The first symptom was invariably pain in the abdomen. This pain continues intermittently until the patient becomes moribund. The interval between the pains may be very short or may last several hours. Vomiting, violent and repeated, succeeds the pain.

Stercoraceous vomiting was noted but once in a series of 59 cases. A most characteristic symptom is the passage of blood or blood-stained mucus from the bowels. In only three of the 59 cases was this symptom absent. Blood does not usually appear until after the first four or five hours.

In most cases there is diarrhœa before absolute constipation sets in. This is the consequence of violent peristalsis set up by the intussusception. The child usually refuses to feed or take anything by the mouth. Collapse sets in early and is usually severe; the complexion being pale, face having a drawn expression and an earthy tint. Great distention, tenseness, and rigidity of the abdomen were never noted. The asymmetry may be noted in most cases. The tumor may occasionally be visible. Palpation causes great pain and rigidity of the abdominal wall, so that for this reason chloroform may be necessary before the presence or absence of a tumor can be quite certain. The position of the tumor in five of the cases was in the upper part of the abdomen; in 24 it was on the right and in 28 it was on the left side. The tumor in 55 cases which were examined per rectum were palpable in 29 and not palpable in 26.

The author is of the opinion that immediate laparotomy is the only treatment likely to yield success in the large proportion of cases. The author reviews the injection treatment and advances strong arguments

against its employment, considering that it is unsatisfactory and uncertain in its results, and that recurrence of the condition not infrequently follows its use. Rupture of the bowel following injection in these cases has frequently been reported. so any treatment by this means is certainly not without great danger. The advantages of operation are that the condition of the tumor and its relations can be seen, and that the intussusception can be reduced from below without injury. Tendency to recurrence can be diminished by fixing the terminal portion of the ileum stitches through its mesentery.

He concludes his paper with details of the operation, the points being rapidity of procedure, a large incision, and the reduction of the pressure from below applied through the sheath. Traction on the entering tube is never to be used. When the tumor is irreducible the outlook is practically hopeless. The after-treatment consists in the use of small doses of calomel, and when distension is present strychnine and physostigmine may be employed. He regards stimulants as most injurious and he avoids digitalin, strophanthine and strychnine. The shock is combated by hot saline subcutaneously.

Dr. A. M. MacGregor discusses Intussusception Statistics and their Story.

The paper is based upon the salient features of 123 cases from the Royal Infirmary at Glasgow and the Hospital for Sick Children. He notes that for the three years preceding the writing of this paper the admission of cases almost equals in number those admitted for the preceding ten years. This increase he accounts for as being due to the more frequent recognition of the condition.

Where the condition is allowed to go over two days he considers the case is practically hopeless. The proportion of recoveries is 60 per cent. for those of six hours duration; 73.3 per cent. for those of 12 hours; 51.5 per cent. for those of 24 hours, and 26.6 per cent. for those of 48 hours. He considers that these figures speak eloquently in favor of surgical interference. Resection was done in 32 cases, with two recoveries, and he considers that when the acute intussusception is found to be irreducible after the abdomen has been opened, the case is hopeless. Three quarters of the cases occurred in the first year of life. In one it seems to have taken place at birth. The ileo-cæcal form was the most common, 39 being of this variety. He considers that when possible the bowel should not be lifted out of the abdomen. The author discusses a method of suturing the mesentery some what similar to that of reefing a sail, the object being to prevent a recurrence of the condition. The continuous suture being used this method does not prolong the operation unduly.

Dr. John Marnoch records eight cases that have come under his observation, five of which recovered. He is of the opinion that the treatment is purely operative and that attempts at reduction by air or water are futile. He believes that feeding in the case of infants should be resumed very soon after the operation.

The synopsis concluded by Dr. Greig, with a study of 20 cases, of which 13 were under one year of age. In 70 per cent. of the cases the illness came on suddenly without any previous warning. He considers the passage of blood by the rectum should not be waited for. Prolonged recurring colic not yielding to ordinary treatment justifies the administration of an anæsthetic to permit the preparation of the abdomen in search of a tumor. In early cases he has failed to find the tumor present. The site of the tumor varies. It is usually curved and exceedingly moveable. He concludes that the only treatment is operation. He considers that inflation by water or air may be employed in early cases with some hope of success. He considers that the inflation should be done simply so as to free the colon in order that manipulation and inversion can be carried out successfully. He considers that the infant who does not sleep after the operation, but remains more or less restless during the first twelve hours, is not likely to do well. Ten of his cases died. Five or six had been ill for two days, so were practically hopeless.

OPHTHALMOLOGY AND OTOTOLOGY.

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.

EFFECT OF WEAKNESS OF GENERAL SYSTEM UPON DEFECTIVE HEARING.

Richard Lake, F.R.C.S. (*West London Medical Journal*, April, 1906), says that aurists are too much in the habit of considering all defects of hearing are due to disease of the transmitting or appreciating apparatus of the ear. The auditory nerve, in common with other nerves, is liable to a condition of fatigue, a state of weakness, a suspension of or inability to transmit its special stimulus or to interpret that stimulus; as in the eye we may have weakness of sight, so in the ear we may have weakness of hearing. It is a deafness neither of the middle nor of the internal ear. It is usually of relatively rapid onset, sometimes intermittent and more rarely of progressive intensity. Accurate tests with tuning forks, acoumeter and Galton's whistle are necessary to determine this condition. One will find that there is an obvious general disorder of the nervous or other systems which has intensified a

slight aural difficulty. The great diagnostic feature is an excessive loss of bone conduction compared with high hearing power as tested by the voice. There is also a marked loss of aerial conduction. Gout, neurasthenia, over indulgence are the more easily discoverable causes which give rise to weakness of hearing. Over-work and worry are also relative frequent causes. The following is one of the cases cited by Lake in support of his contention. A lady entertained a good deal and went into society, and had a sick husband to whom she read a good deal. In June, 1903, she observed that high voices and loud sounds caused her great discomfort. Tinnitus was extremely troublesome and she suffered from diplacusis and from a certain amount of aphonia. A remarkable point was that she heard the whispered voice at 10 feet, yet there was an enormous loss of bone conduction. She was told to rest and put on tonics and valerian. At the end of four weeks the bone conduction was three seconds, and the aerial conduction showed a gain at three octaves from the base.

OPERATION ON THE VESTIBULE FOR THE RELIEF OF VERTIGO.

Richard Lake (*The Lancet*, Jan. 6, 1906), describes his method of reaching the vestibule for the relief of extreme vertigo of aural origin. The patient, a woman, aged 29 years, had been absolutely deaf for some time. Both ears had been operated on several times for the cure of suppurative disease. During the last four years she had suffered so much from bilateral aural vertigo that in walking she described a series of curves alternately with each foot, with a greater tendency to the left. An operation was performed on May 2nd, 1905. A scalpel was inserted in the meatus, the edge being between the tragus and helix. It was carried upward and forward and then backward so as to detach the external ear, which dropped down out of the way. The bony semicircular canal was exposed to view and its upper surface removed by burr, until the membranous canal was exposed to view. The diameter of the canal does not exceed a twentieth of an inch. The canals are then followed up along their anterior and posterior limbs. The vestibule is then opened and divisions chiseled away. The commencement of the superior canal is freely opened and its ampulla scraped out. The next stage is the opening of the foramen ovale and removal of the foot plate of the stapes to give free drainage. The parts are thoroughly cleansed with an antiseptic solution and filled with iodoform emulsion. The after-history was uneventful. There was no shock, nystagmus or vertigo. At the end of three weeks the patient was able to walk fairly straight and to go up and down stairs.

OCULAR SYMPTOMS IN TABES DORSALIS.

In a recent number of the British *Lancet* there appeared a description of three somewhat unusual ocular types of tabes, and as the following cases present somewhat of a similar nature, it seems they are not without interest.

Case 1.—This is a case of slowly progressive tabes in a young woman, the chief point of interest being the early age of onset and so far as human powers can discern, no syphilitic taint.

Mrs. M. was sent to me by her family physician, Dr. Scott, of Kalamazoo, on account of her intense attacks of occipital cephalalgia and of blindness which came on at varying intervals, lasting from one day to three or four.

She is at present aged but 28, and the disease started at the age of 18. She is the mother of a healthy boy of 7, has had no miscarriages, no history of sore throat, eruption, enlarged glands, or stigmata of syphilis, hereditary or acquired, notwithstanding the most careful search. She complains of almost constant frontal headache and deep pain in both eyes, but while these are quite severe they are of less concern than the occasional attacks of occipital cephalalgia and loss of sight. These latter occur late in the afternoon and increase in severity till 4 a.m., when they are at their worst. She never has had pain anywhere else except some discomfort at the menstrual epoch. Vision of the R. E. 20-20; L. E. 20-100; esophoria 2^v; no hypophoria; abduction 4; adduction 18-20. Under homatropin dilation R. E. shows plus 2.5, L. E. plus 1.5; Sph. gives 20-15 R., no glass helps the left eye.

The ophthalmoscope shows almost complete atrophy of the left optic nerve, especially the nasal part of the disc, arteries are shrunken and only a small blood current can be made out on pressure. Right nerve is almost as white and the vessels are somewhat shrunken.

The fields of each eye, taken with an eight mm. square, show characteristic sector defects, and irregularly concentrically contracted fields.

Romberg's symptom is positive, Argyll-Robinson pupillary reaction is present. The patient can walk and turn rapidly with ease, no ataxic gait (as yet), patellar reflex is absolutely abolished, as too, ankle clonus; she has numerous areas of anæsthesia to pin point over both legs and arms. No sexual changes. As she comes out of the "spells of blindness" it is always the nasal side of the fundus which first is restored so that for a time she has bitemporal hemianopsia. There is no sinus complication. I am reasonably sure of that.

Nitroglycerin tablets 0.6 mg. (1-100 gr.) three times daily, with deep massage of the eyes and subconjunctival injections of mercuric cyanid

1-3000, seem to give some relief of pains in the head. In the five months I have been treating her, she has had one attack and that within the past few weeks, and this was the severest attack she has ever had, but she has come out fairly well. I may say that we have pretty well eliminated all elements of possible auto-intoxication by free saline evacuates. The diagnosis of tabes is made from the fundal findings, the characteristic defects in the field of vision, loss of patellar reflex, positive Romberg, Argyll-Robinson pupil, and the peculiar cephalgia.

We tried aluminum chloride on this patient as recommended by Gowers lately, but it seemed to intensify the symptoms.

Case 2.—Mrs. C. A. W. aged 38, was also sent to me by Dr. W. H. Scott on account of bad vision and headaches. She never had any children but she has had syphilis which was contracted from her husband. Both had been under the doctor's care for this disease and there was no doubt as to diagnosis.

She complains of great dizziness and pain in the head, more especially in the frontal region, through the ears and in the occiput. Attacks of cephalalgia used to be more severe than they now are; lying down gives her comfort, but the moment she attempts to rise headache, diplopia, and nausea ensue. Walking is exceedingly difficult, which she thinks is due to the diplopia. This diplopia came on in May, I saw her in September.

She has full normal vision in each eye notwithstanding a double papillitis. Refraction each under mydriatic is 2D sp. with 0.5 astigmatism with the rule in the right eye. She has right hypertropia $5\frac{1}{2}$ and esotropia 10. It is impossible to turn the right eye fully toward the inner caruncle or downwards so far as the other eye. Diplopia is manifest at 10 cm.; double papillitis. Knee-jerks are absolutely abolished. Romberg symptom is positive. Anæsthesia is present over much of the lower trunk. She has a distinctly ataxic gait and almost topples over when she attempts to turn rapidly. Both fields are strikingly contracted and present characteristic sector defects. She has also laryngeal ataxic symptoms.

Under mercurial inunctions and subconjunctival injections her diplopia gradually has disappeared and to some extent the headaches also. The pains in her limbs and the ataxic gait persist, so also the sector defects in the fields, but the papillitis has cleared up.

These cases are not without special interest, as they both occurred in women and because in the one case of the early onset (before marriage at the age of 18) and the almost positive non-syphilitic history, and that she is still in the pre-ataxic state. The other case because of the positive proof of specific history, the diplopia and rather unusual

appearance of double papillitis rather than descending optic atrophy which is the common eye symptom. I also present them to emphasize the well known fact that as the oculist may be the first to diagnose nephritis so may he be the first to determine tabes.

Since the above was written I have given her big doses of potassium iodide with excellent results as to cephalgia, though tabes is still the diagnosis; it seems now that there is some relation to lues. It again shows how often we are fooled in this matter.—*E. J. Bernstein, M.D., in American Medicine, September, 1906.*

NOTE.—In the first case we believe there had been syphilitic infection. This may be contracted accidentally and run an unrecognized course.—*Ed. CAN. LANCET.*

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.

THE TREATMENT OF EMPYEMATA OF THE MAXILLARY SINUS THROUGH THE NOSE.

Geo. L. Richards (*Jour. A.M.A.*), divides antral cases into two classes, those due to diseased processes in the tooth roots, and those due to nasal conditions, of which influenza is by far the commonest cause.

Exploratory puncture below the inferior turbinate is by far the simplest means of making a diagnosis (the reviewer would add "and the only positive means"). In speaking of the operation through the canine fossa and subsequent nasal drainage, the author thinks, while this an admirable method, it is one not as often called for as is generally supposed. Richards punctures the antrum beneath the inferior turbinate, and washes out with a small curved catheter. Sometimes in recent cases not associated with disease in other cavities, this method is all that is required. Should suppuration continue after a week or so, Richards enlarges the opening beneath the inferior turbinate, and removes some of the degenerated mucous membrane with curved curettes. The cavity is then packed with iodoform gauze. Patients may be taught to irrigate subsequently themselves. He does not believe the turbinated body should be partially removed in entering the antrum. Sometimes he opens the antrum above the inferior turbinate. He does not use mouth drainage in any case.

THE NOSE IN ITS RELATION TO ASTHMA.

Dr. Greville MacDonald returns to the interesting and much discussed question of the relation of the nose as a factor in the production of asthma. He divides his own cases of asthma into three classes:— (1) Those in which the relief or cure of asthma is obtained by removing obstruction to easy breathing; (2) those where the treatment of any other abnormality in the nose is similarly successful; (3) those where the mere cauterisation of mucous membrane in a comparatively healthy nose results in cure. That the removal of any obstruction in the nose may result in the cure of asthma has been well established. In the author's experience the most favorable form of obstruction is hypertrophy of the erectile tissue, and he has obtained the greatest amount of success in asthmatics in dealing with enlargements of the anterior ends of the inferior turbinals. Next in importance, in his opinion, is any irregularity of the septum, causing pressure or obstruction to easy breathing. With regard to the relation of adenoids and asthma, MacDonald states that he cannot refer to one case of cure after operation upon post-nasal growths, unless there was some co-existing obstruction in the anterior nares. In cases of nasal polypi, while he has found the affection ameliorated by their removal, the prognosis as regards the asthma is singularly uncertain. There are a sufficient number of facts to establish a relation between nose disease and asthma as cause and effect, notwithstanding the impossibility of classing them together in working theory, and of venturing a prognosis in any individual case.

Turning next to the second series of facts in which there is no nasal obstruction, but where the treatment of an unhealthy mucous membrane helps or cures the asthma, we find that there are definite reasons for assuming an intimacy between the nose and bronchial tubes. A large proportion of asthmatics are also sneezers, and an attack of sneezing often precedes an attack of asthma; often, too, a patient will declare that the first warning he has of an attack of asthma is blocking of the nasal passages, which open up again as the dyspnoea ceases. There is often to be observed in habitual asthmatics a general oedema and anæmia of the nasal mucosa. In these cases, whether the oedema is associated with sneezing or asthma as the chief complaint, or whether the two are associated, the electric cautery may be used with the happiest results, especially when the oedema is pronounced over the upper part of the triangular cartilage of the septum. In the author's opinion, the treatment of any hypertrophy of the mucous membrane in the anterior region of the nose by means of the cautery is attended with beneficial results.

The third group of cases, where cauterisation of the healthy mucous membrane gives relief, is even more interesting. MacDonald is a strong supporter of the observations made by Alexander Francis, who pointed out that the great majority of asthmatics can be cured by cauterisation of the upper part of the cartilage of the septum. The author refers to three cases in which asthma supervened for the first time after the removal of nasal polypi. In one of these cases the asthma disappeared when the nose again became blocked on the recurrence of the polypi.

To summarize, we may say that any treatment which allays the irritability of the nasal mucous membrane, whether by operation and the ventilating of abnormally protected areas of mucous membrane, or by hardening the hyperæsthetic areas with the electric cautery, may modify or arrest the onset of the catarrhal attacks, whether they manifest themselves in symptoms of sneezing, laryngitis, bronchitis, or asthma.—*Edinburgh Med. Jour.*

THE ULTIMATE RESULTS OF CAUTERISATION OF THE INFERIOR TURBINATE.

Goodale (*Boston Med. and S. Jour.*, 1904) thus summarizes the results of histological examination of the nasal mucous membrane after the application of the cautery:—(1) Caustic applications may cause a loss of the columnar, ciliated epithelium, with a replacement of it by cells of the squamous type. (2) Such applications may cause an obliteration of the canaliculi in the basement membrane. (3) Immediately below the cauterised mucous membrane new connective tissue may be formed, which extends downwards to a depth dependent upon the intensity of the trauma. (4) The contraction of the tissues, which is observed clinically, is due to the contraction of this new-formed connective tissue and the consequent compression both of the lymph sinuses and of the lumina of blood vessels and glands. (5) Cystic dilatation of the glands may follow this contraction and contribute to a subsequent return of the nasal obstruction.—*Edinburgh Med. Jour.*

TO ABORT ATTACKS OF CORYZA.

R

Acidi Carbol. m.xv.
Sig. Ammoniae m.xx.
Alcoholis ʒi.
Aq. Dist. ʒii.

Sig. Five or ten drops to be placed on blotting paper and inhaled for a few minutes every two hours.

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EDITORIAL.

FOOTBALL FATALITIES.

From year to year football goes on and with it the usual quota of deaths and maimings. Last year seemed to be a sort of climax one in the United States, and a number of colleges seemed to think that the time had come for interference. We think so too.

On the Board of Governors of the University of Toronto Dr. Goldwin Smith holds a seat. On more than one occasion he has raised his voice against the unnecessary infliction of pain upon the lower animals in the performance of vivisection experiments. It remains to be seen whether or not he shall raise his voice against the death and maiming of students while playing football.

The writer can recall the examples of six young men of Toronto who came to their death by this game; two just the other day, and four some years ago, by severe forms of injury. This says nothing of the many who sustain injuries that are more or less permanent and, all too frequently, quite serious.

We are not exaggerating the picture when we state that a game which caused last year in the United States the death of 28 students and injured over 1,000 more, many of these permanently, should be condemned. For the numbers engaged, the casualty list is greater than in the late Russo-Japanese war; and yet this sort of inter-college war is countenanced by the authorities and cheered by the students. A game with such a record should have no place in college life any more than going into the woods with guns and playing at real war, as did two great nations recently.

A goodly number of the keenest observers of college life frankly state that the game does not tend to bring out the best in the players. Indeed, the very reverse is the case, for it calls forth the more brutal qualities to win the game. More than one head of colleges have spoken out to the effect that the game encourages and cultivates the lower propensities, the desire being to win at any cost. Guided by such

motives the players all too often stoop to unscrupulous practices. This is anything but elevating on the players, and cannot be much better on the sympathizing spectators.

College life can become a sort of educated savagery. A short time ago, in a college in Ohio, the students undertook to put one of their number through his initiation into one of their societies. They tied him to the railway track and left him, intending to go back before the train came along; but they were not aware of a special that was soon due. The result was that the young man was crushed to pieces almost beyond recognition.

Dr. Coughlin, writing in the *Medical Record* some time ago, sums up the case by saying that the number and severity of the injuries are greater than is credited, that they occur generally in the "pile," that they are inherent to the game, that they are unavoidable, that the game does not develop the best type of men, that accidents are more numerous than in any other form of sport, and that they are too numerous for any mere sport.

If it be necessary for the maintenance of students (a contention we do not admit) to play football, it is absolutely necessary that it should be so played as to divest it of its risks to life, and limb, and internal organs. As played at present it accomplishes little else than furnishing a means whereby a certain number of students lose valuable time and run serious risk of injury, and certain others get some exercise, whatever it may be worth, by shouting over the game as it progresses. The game does not make the weak strong, but often makes the strong weak; it does not elevate the wayward, but tends to brutalize and lower the best; and, in fine, leaves nothing to show for all the energy put into it, unless it be a few banquets.

The *Globe*, of 13th October, commented as follows:—

"The very regrettable fatalities which have recently occurred in connection with the game of football—the first in Canada—point this moral for the college authorities: that no man should be allowed to play football who has not first passed a medical examination and been certified as fit for such strenuous exercise.

"It is unfortunate that a game so well adapted to college students, and withal so thoroughly commendable, should be even unwarrantably associated in the public mind with fatal results. In the case of young Paulin last week it is known that there were predisposing causes which a medical examination would have discovered. The same will probably be discovered in the unfortunate case of young Ellis. While there is no ground for regarding the game of football with disfavor, the authorities would do well to insist on medical examination as a prerequisite

to permission to play either this or other games that may overtax men who are not in physical condition for vigorous exercise."

The *Globe* is in error when it states the deaths of Paulin and Ellis were the first in Canada. We know of four others in the past, all in Toronto. Further, no medical selection could prevent fractured skulls, broken legs, dislocated necks, and injury to the internal organs. Some of the deaths we know of were in persons of splendid physique.

See the following as an indication of how the season is opening in the States :—

"Because of the death of Charles Surdam from a broken neck, sustained in a football game, 13th October, at the Morristown, N.J., school, all games scheduled by the Morristown High School have been cancelled and the team has been disbanded. The accident has greatly affected the schoolboys. Although football was the favorite game here, and many games have been scheduled this season, it is probable the schools in this city will let them go by default. Already messages have been received by students in private schools from their parents, forbidding them to play the game."

Plainwell, Mich., Oct. 15.—As a result of being kicked in the back during a football game Edward Piche, aged 16 years, may be crippled for life. He was carried unconscious from the field and since regaining his senses has suffered intense agony. The injury is so close to the spine that his full recovery is a matter of grave doubt.

Mentor Housel, another Plainwell player, had his right leg broken in the game.

The Journal of the American Medical Association said editorially in its issue of 6th October as follows :—

"The newspapers are already announcing deaths from football, and yet the season is only just opened. It was hoped that the modification of the rules effected by the intercollegiate committee last winter would be adopted and that they would eliminate many of the injuries and all of the serious accidents. Apparently in some places they have not been adopted or have failed to accomplish this purpose. Such modifications as have been made were only as the result of a large amount of pressure brought to bear on the rules committee by medical journals and newspapers, by the protests of faculties and alumni, and by the popular feeling that no sport is worth so many lives as football has been costing in recent years.

"It is rather difficult for most people to understand why there should be so much insistence among college men on the necessity for continuing Rugby football since, as the game has developed here in America, it has become inevitably bound up with so many rough features. Radical modification of the rules, such as would make the game

much less rough, has always been opposed on the grounds that this would so lessen the interest in the sport as to cause it to cease to be the drawing card for large audiences that it now is. It is well known that college athletics derive their main support from the large gate receipts obtained at football games. To the physician it seems utterly absurd to urge that a question of money such as this should stand in the way of modification in a university sport that is intended to save lives and to prevent accidents that produce permanent injury. But even the argument itself with regard to gate receipts on the drawing power of football, irrational, indeed ludicrous as it is, loses all its force when the records of the attendance at English football games are carefully studied. The open game of football in England, which has nothing like the fatalities of our American Rugby, draws even larger crowds. The record attendance at a London football game is over 110,000, and frequently there are 50,000 people present. It is evident then that this argument which has so far had so much weight with college men is simply founded on the lack of knowledge of football conditions elsewhere.

"If we are to have this year a repetition or an approximation of the awful record of recent years, and of last year especially, it will practically amount to a conviction of our university authorities of lack of power to control certain of the vicious elements in student human nature. If gate receipts are to continue to be a supposed justification for rough play that draws a crowd, then the epithet of Maxim Gorky, which created so much resentment last summer, can not be gainsaid, *i.e.*, that we are an essentially brutal people, since we delight in stories of cruelty and bloodshed in newspapers and find pleasure in spectacles in which life is put in danger."

In what we have said against football, we are not uttering a word against any form of manly, healthful sport. What we are condemning is football as it is played. There is something wrong when the student body can vociferously cheer a game that but yesterday sent the college flag down to half mast, and the day following may injure for life one or more of the participants. Surely it is within the wit of man to relieve the game of these risks. If this be impossible, and the game must be retained, then let us also have the duel, the gladiator, the bull fight, and the chariot race, at once, to complete the cycle.

THE VISIT OF SIR A. E. WRIGHT.

The University of Toronto and the Toronto Medical Society are to be congratulated on securing a visit from so distinguished a member of the medical profession.

Sir A. E. Wright's work is of the first importance. He is an original investigator along the whole line of the infectious diseases, and already he has done work that is sure to last. It is hoped that he may be crowned with still further laurels in his chosen field of research.

A visit such as he paid to Toronto does good in a number of ways. In the first place it shows what is being accomplished in other centres of thought and work; then it will have the effect of stimulating our Canadian colleges to renewed efforts along the lines of original investigation; and in the next place it will set the whole profession a-thinking anew and in fresh directions. Carlyle once said, "A great man is as fire sent out of heaven; the rest of men waited for his coming, like fuel, and then they too would flame."

We feel confident that the waves of thought which have been set in motion by Sir A. E. Wright will continue in ever-widening circles, until the entire profession have become familiar with his work. The waves of thought started by Harvey, Hunter, Jenner, Pasteur, are flowing on. So must it be with such researches as those of Sir A. E. Wright.

TUBERCULOSIS, 1885-1906.

At the meeting of the Ontario Medical Association, held in Toronto in 1885, the present editor of the *Canada Lancet* urged strongly the view that tuberculosis was a communicable disease, and that the work of the future must lie along the lines of prevention rather than cure. This view was severely attacked by a number of those present, and particularly by two of the senior members, and both holding high positions as medical teachers. For the sake of the memory of one of those and the feelings of the other, we shall mention no names at present. Within a week at least half a dozen abusive letters were received, finding fault with taking up the time of the association with such nonsense. But great progress has been made since then.

In an obscure and neglected grave there lie the remains of Dr. Richard Bodington, of Sutton, Coldfield, one of the great prophets in medicine. In 1843, he put his belief into actual practice by treating consumptives in a tent; but the storm of public opinion was too much for him, and he used his tent and open air method for the insane. What an irony of fate!

At the section on State Medicine at the recent meeting of the British Medical Association a number of eminent men read papers. Dr. Samuel Dixon, Commissioner of Health, Harrisburg, Pa., presented a paper on the Prevention of Tuberculosis. He spoke of the work done in the way

of rendering animals immune, and hoped that this might become possible in the case of the human subject.

Dr. James Roberts, Health Officer, Hamilton, Ont., stated that there were about 40,000 consumptives in Canada, and the annual loss caused by these was about \$8,000,000. He praised the work of the Ontario Government in aiding sanatoria for the treatment and suppression of the disease. He censured severely the feeling that the disease could not be prevented and thereby wiped out. He thought the prevention of the disease was an international one.

Dr. A. W. Gilchrist, of Nice, France, followed in a similar strain by a paper on the analogies of tuberculosis and influenza.

Dr. Probst, Secretary of the Ohio State Board of Health, held that efforts should be made to educate the public on this important subject. He urged that consumptives should not be allowed to mix up at hotels and on trains with others; and there should be strict regulations regarding the sputum. Drinking led to poverty, and this in turn to consumption. If properly protected these patients might be out at all seasons.

Dr. George Homan, President of the St. Louis Medical Association, took up the relationship of dust to the spread of the disease. He held that domestic methods and household dust were responsible for much of the consumption now afflicting the human race. He urged that dust in houses should be kept down, that whatever spread the dust in buildings spread the disease, and that all public places should be cleaned by the dustless method.

Dr. Stevens gave an interesting statement of the work carried on successfully in Renfrew, Scotland, to educate the people.

Professor Glaister, of Glasgow University, spoke at length on carrying power of dust for the bacilli. He said that whatever conditions were preventive were also curative. He dwelt on the value of the open air treatment and a suitable climate. He condemned the presence of so much smoke in the air, as it irritated the lungs and paved the way to tuberculosis.

Dr. J. Groves, of Carisbrooke, Isle of Wight, said that condensed literature should be spread among the people, and that all consumptives should be brought under proper education. He also spoke of the value of camps near cities for the care of these patients. In 1868 he had himself sought a cure from the disease by visiting Canada.

Dr. Barnie, Dr. Woodward of the U.S.A. Service, Dr. Manby, and others spoke along similar lines.

What would these physicians have said at the Ontario Medical Association in 1885?

THE PLACE OF ALCOHOL IN MEDICINE AND SURGERY.

In our issue for September we gave an abstract of the address on alcohol by Sir Victor Horsley and Professor Sims Woodhead, a surgeon and a physician respectively of the highest standing, and whose words are entitled to the utmost consideration by all who wish to acquire an intelligent conception on the subject of alcohol. During the various meetings of the sections, opinions of much weight were expressed by a number of speakers. We shall give our readers the benefit of a few of these.

Dr. H. O. Marcy, Boston, in moving a vote of thanks to the Dominion Alliance committee, spoke as president of the American Society for the Study and Cure of Inebriety. He referred to the change in sentiment since Civil War times, now that soldiers and sailors no longer have intoxicating drinks served to them, and hotelkeepers insist that their barkeepers shall be temperance men.

Prof. Murdoch Cameron, Professor of Midwifery, Glasgow University, in seconding the motion, declared himself a life-long abstainer. When he was one of Lister's dressers, he used to give six, eight or ten ounces of brandy to patients. In Glasgow, for such operations as caesarian section, ovariectomy, and hysterectomy, no alcohol was now used. After an operation a teaspoonful of hot water was given every 15 minutes, if awake, for twenty-four hours. If still sick from chloroform, then for twelve hours longer. After that a spoonful of milk and soda till the patient thought their milk and soda the best in the world, and their bread the dearest, since they got but a finger at a time. What was the result? He was reminded of a French cartoon in which the doctor promised a patient a carriage ride in three days. Below was the picture of a hearse. That was the rule under the old system. Now his patients were able to go out on their own feet.

Another view of the question of the value of alcohol in medicine was presented in the therapeutic section. Dr. A. D. Blackader, of Montreal, summarized the present teaching of pharmacologists on the subject by saying that in recent times the drug had been assailed. In the past its stimulant action had been overestimated, but it had a definite value, by increasing the secretions of the gastric follicles.

The facts as they were known, Dr. S. J. Metzger, of New York, said, were favorable to a judicious use of alcohol in disease. The experience of medical men proved that it did not harm patients, and the majority of clinicians were convinced that it was beneficial to them. There were reliable experiments to show that the drug developed an immunity from experimental infections, and was capable of moderately stimulating the heart and increasing the blood pressure.

Prof. G. Sims Woodhead, of Cambridge, took the contrary view, which he expressed at the luncheon on Wednesday. He held that alcohol was of small value, and should be used with care.

Dr. W. H. Moorehouse, London, took the middle course, and argued that alcohol should not be given to patients with a weak heart, although it might be beneficial in typhoid in inducing sleep.

Dr. J. Rose Bradford, London, England, strongly opposed the use of alcohol for convalescents.

In a paper before the section on psychology, Dr. Crothers (Hartford) dealt with the insanity of inebriety, which, he argued, was a more accurate term than alcoholism. The insanity of inebriety had been recognized long before insanity was considered a disease. The insane inebriates were the periodic drinkers, whose excesses were manias, epilepsies, circular insanities, and in the later stages all these symptoms merged into pronounced forms of insanity. The second form of insanity prominent in the inebriate is the continuous drinker who early displays delusions of exaltation and strength he does not possess and who is practically a reasoning maniac and the most diseased of all drinkers. The cumulative action of alcohol in small doses acts first on the senses, then on the reason and is followed by neuronie degeneration, toxæmic conditions and nutrient perversions. The so-called "moderate and steady drinker" is the most devitalized and degenerate of all users of alcohol. A very large proportion of the diseases of modern civilization are due to the direct or indirect action of alcohol on the cells and nerves. Experience shows that these cases are curable to a far greater degree than realized at present. The whole subject must be studied medically before any real progress can be made. The present efforts by law and moral measures are great blunders and actually increase the disease which they try to prevent.

There is one feature of the action of alcohol in the blood to which too much attention cannot be given. We have referred to this on many occasions, namely, its power to take up oxygen. By this action on the oxygen of the blood great harm may be done to the tissues, and actual oxygen starvation result. A patient with pneumonia, or pulmonary tuberculosis, whose blood is poorly supplied with oxygen, is bound to be injured by the consumption of alcohol. In all septic conditions its use tends to lower the resisting power of nature and impair the efforts at the production of immunity.

To Dr., now Sir William, Gairdner, then of Glasgow, but now retired and living in Edinburgh, too much credit cannot be awarded for his heroic fight against the excessive use of alcohol in the treatment of disease.

The late George S. Keith, of Edinburgh, in his little books, "A Plea for a Simpler," and "Fads of an Old Physician," gives some excellent advice that every practitioner should lay to heart.

Alcohol has the power to dilate the peripheral vessels. It is, therefore, of value in some cases of exposure to cold, where the desire is to bring the blood away from the internal organs.

It is true, as contended by Dr. Blackader, of Montreal, that alcohol increases the secretions of the gastric follicles; but there are many drugs that will do this, without the injurious effects and dangerous tendencies of alcohol.

In conversation, Professor Gardner, of Montreal, stated to us that in his gynæcological and obstetrical practice he very rarely had occasion to employ it.

Mr. Pearce Gould, who needs no introduction as a surgeon, a short time ago said: "It is commonly held, I believe, that alcoholic stimulants are of especial value in all forms of septic inflammations. I believe that this is founded solely upon tradition unsupported by any trustworthy evidence, and untested by experience or experiment." And again, "I think that of all the bad uses to which alcohol is often put as a therapeutic agent, none is worse than its employment in any form of infective disease. In cases of uncontrollable suppuration nothing but good comes from withholding it."

Sir James Barr, in an address on alcohol, *Brit. Med. Jour.*, 1 July, 1905, reviews its use very fully. He discusses its action on the circulation, the nervous system, and the cells; and then deals with its therapeutic effects in pneumonia, typhoid fever, tuberculosis, acute specific disease, diseases of the nervous system, shock and collapse, circulatory diseases, respiratory system, alimentary diseases, and surgical operations. He concludes by saying, "Gentlemen, I think I have said enough to show you my opinion of the limited utility of alcohol in disease."

Professor Sims Woodhead, in the Lees and Raper Lecture, said: "The facts would seem to me to be that alcohol can be oxidized, and is therefore capable of generating heat-energy, but from its paralytic effect on protoplasm it interferes with anabolism and leads to dissolution of the proteid molecule with the formation of fat."

Sir Samuel Wilks, in a recent article, remarks thus: "In all cases of heart disease the utmost care is required before prescribing alcoholic drinks." "As a remedy in nervous diseases alcohol is invaluable, but the greatest care must be used in its administration. The value of it as an anodyne is well known." "In cases of low spirits and general mental dependency much care must be taken in its administration." "I might here allude to the value of alcohol in the case of wasting in

children." "I should say it is a most valuable remedy, and, if so, necessarily must do harm when injudiciously given."

The late Sir Henry Thompson said a short time before his death: "I did give it a trial, and a sufficient one, and was soon satisfied that it was unquestionably injurious, and had grown out of the atrocious blunder that as men grow old and infirm they require more 'support'—fallacious notion!"

Sir W. H. Broadbent, in a recent article, states: "The action of alcohol which we call stimulant is, therefore, indirect, and the most conspicuous evidence is dilatation of the arterioles and capillaries, which allows of freer supply of blood to all the organs." "It may be said at once that alcohol has no place in the treatment of weakness in childhood." He differs from Sir Samuel Wilks. "Ten ounces a day represents, in my opinion, a maximum likely to be of real service in any form of acute disease, but I have seen much more given with apparent impunity, especially, perhaps, in septicæmia." He differs from Mr. Pearce Gould and Sir Victor Horseley. The general trend of Sir W. H. Broadbent's paper is towards greater moderation in the use of alcohol.

Dr. George L. Peabody, of New York, in discussing alcohol in disease, concludes by stating: "I am quite willing to subscribe to the closing statement of Metzger's paper: 'Alcohol in health is often a curse; alcohol in disease is mostly a blessing,' or possibly, it might be safer to say that in disease it is a blessing when it is properly used."

We would like to close with the words of the late Sir J. E. Erichsen: "If a drug is capable of doing much good or harm, according as it may act in a certain case, you had better withhold your hand."

STATE MEDICINE.

When the late Sir Benjamin Ward Richardson wrote his book on Preventive Medicine, little did he think what a crop the seed he was sowing would yield.

Perhaps the most important section of the recent meeting of the British Medical Association was that devoted to State Medicine. Several topics of vital importance were very fully discussed. Among these may be mentioned the prevention and treatment of tuberculosis. The inspection and care over the milk supply, the prevention of the pollution of rivers and waters, the use of food preservatives, the control over the water supply, and the proper inspection of immigrants. All these are important subjects.

One can hardly imagine anything more filthy nor dangerous than a consumptive spitting on the sidewalk, or in a street car. There is

scarcely language strong enough to condemn the practice of a large city pouring its sewage into a river to flow down stream to pollute the water supply for all who live further down its course. Then, again, think of the thousands in the large cities who are supplied with milk from diseased cows and distributed by dirty people in dirty cans. Or go to a dock where a shipload of ignorant, dirty and diseased immigrants are landing, for an object lesson on the importance of proper inspection.

Far better spend our money on the care of our own children, than on the importation of the mentally, morally, and physically defective output of foreign countries. If the work of this section gives an impetus to public opinion that will lead to the appointment of a Minister of Health, it will have done a most valuable service to the community.

The Department of Law or Justice is under the control of a lawyer, the Department of Agriculture is presided over by a farmer. There is a Department of Finance, one for Lands and Mines, one for Schools and Colleges, and one for Public Works; and all very necessary.

The prevention of disease on the one hand, and the cure of disease on the other, as in our hospitals and asylums, are a subdepartment only. The present Board of Health for Ontario has done much good service, and similar boards in other provinces are entitled to no small amount of praise, but public health would receive an impetus for good by being under a minister of its own.

HYGIENE IN SCHOOLS.

The Second International Congress on School Hygiene will be held in London, Eng., August 5-10, 1907. Looking forward to this a meeting was held in Toronto during the time of the British Medical Association.

Dr. Wm. Oldright, who presided, explained the object of the Congress and the conditions of membership. The programme of subjects to be discussed embraces all phases of hygiene as relating to school buildings, teachers and pupils, including physical training. He suggested that it was no use the Congress meeting and formulating rules unless they were carried out, and there would be no enforcement unless people affected were interested in the question. The best method of securing this was to form committees in each locality.

Dr. Joseph Groves, Carisbrook, Isle of Wight, described the progress of the movement to have principles of hygiene taught every child in the school. The degeneration of the race noticeable had been largely due to the ignorance of hygiene. Dr. Groves said that the result of

the instruction of the children at school in England in the simple principles of hygiene had been productive of a much better condition in the homes. Another direction in which beneficial results had attended the teaching of hygiene in the schools was in the interest which children had taken in the conditions under which milk delivered at their homes was handled at the dairy. He thought it was much more important to teach the children how to live than to teach them much that was taught in his own district.

A resolution was adopted requesting the local committees which has been organized in Toronto to communicate with other centres in Ontario, with a view to the selection of delegates to the Congress.

At the section of Psychology of the British Medical Association the subject of School Hygiene came up for discussion.

Dr. Helen MacMurchy, Toronto, gave an instructive paper on the medical inspection of schools. Dr. MacMurchy claimed that expert medical knowledge was necessary in looking after the health of the children, which could not be expected and was not available in the teacher, who had enough to do to impart instruction and was not too well paid. Neither would the voluntary medical inspection of schools as carried on in Italy be effective; only that inspection which was properly remunerated would be satisfactory. Incidentally Dr. MacMurchy urged the absolute importance of everyone knowing how to feed children properly in order that they may grow up strong and vigorous.

Mr. Wm. Scott, B.A., principal Normal School, Toronto, in an able paper upon the same subject, regarded the preservation of the health of the pupil and the imparting of sufficient education to enable him to discharge the duties of life as the duty of the State. As the school population numbered one-seventh of the community, the schools were centres from which disease spread. The logical outcome of compulsory physical examination of the pupil by those competent to make it. Mr. Scott combated the idea that the teachers' part was confined to imparting information and contended that the teacher could do much towards the physical development and vigor which better fitted the pupil to receive instruction. The importance of medical inspection was emphasized in reference to defects of eyesight and hearing, which so frequently interfered with the progress of the pupils.

Discussion upon the subject was participated in by Dr. Nasmith, Fife, Scotland; Dr. Stevens, Scotland; Dr. Webster, Toronto; Dr. E. Herbert Adams, Toronto, and Dr. Kilpatrick Thompson, Glasgow.

We are glad to notice that so important a matter as School Hygiene is coming in for its proper share of attention. There are many subjects of the utmost importance for school children to know. Among

these we might mention the all-important ones of temperance, proper foods, ventilation of the home, the avoidance of infection, the prevention of venereal diseases, etc. By proper attention to these questions the death rate should be materially reduced, not to say anything of the lessened amount of sickness.

THE IMPORTANCE OF THE BLOOD-GLANDS.

In the August *Monthly Cyclopædia of Practical Medicine*, Dr. Arnold Lorand contributes a most suggestive article on the blood-glands and their influence on metabolism. He draws attention to the fact the boys and girls look so much alike until the sexual organs, ovaries and testicles develop, and, again, that many old women in voice and face assume much of the male type. These differences are due to the presence or absence of the secretions of certain blood-glands. The sexual glands and the thyroid influence the growth of the body. Eunuchs have abnormally long extremities, and children with defective thyroids do not develop mentally nor physically.

It has been a matter of clinical observation that a defective condition of the thyroid gland, either by growth of activity, predisposes to tuberculosis, and greatly lowers the resisting powers of these persons to all forms of infection and weakens the capacity to produce immunity. They are less liable, however, to diabetes and gout. Persons, on the other hand, with a very active state of the thyroid, are prone to diabetes and gout. Their condition simulates the symptoms of many fevers. Graves' disease exhibits the clinical features of tachycardia, hyperthermia, exophthalmus, perspiration, diarrhœa and diuresis. All of these conditions are met with, more or less completely, in febrile states. In fevers there is a condition of the thyroid called "thyroiditis simplex." The opinion is expressed that many of the clinical features of fevers are caused by this activity of the thyroid gland.

The castration of young animals makes their limbs grow abnormally long. The removal of the thyroids has the opposite effect. Feeding thyroids increases the formation of callus in cases of fracture, and increases the growth of the long bones when these are not developing. It also stimulates the growth and development of the brain, as illustrated by the improved mental activity of backward children. Animals whose thyroids have been removed fall ready victims to infections. The use of antipyretics is condemned as contrary to Nature's efforts at healing the body.

Persons with healthy blood-glands, especially a healthy thyroid, possess a far better chance against all forms of infection than do those who

are not so endowed. But it has also been found that the descendants of animals whose thyroids had been removed possessed a decidedly lowered resistance.

Coming to diabetes, Dr. Lorand contends that it is often developed on an inherited basis. Children of diabetics are often of a nervous nature, and both conditions go with hyperthyroid activity. In the same way the tendency to inherit nervous diseases is due to the tendency to inherit an over activity of the thyroid gland. The hypophysis cerebri exercises a very great influence over the nervous system and growth, as seen in acromegaly.

The ovaries play a very important rôle in the animal economy. This is illustrated by the many nervous disorders that may occur at puberty, during menstruation and lactation and at the menopause. Frequent and excessive activity of the thyroid gland, as in the above functions, may lead to its exhaustion and the occurrence of myxoedema. An over exhausted condition of the sexual glands, or the thyroids, causes premature senility. So an excited condition of the thyroid may cause hysteria, while an exhausted state of it may result in neurasthenia. In Graves' disease and when thyroids are fed oxidation is increased; while after thyroidectomy and in myxoedema oxidation is reduced. Castration and spaying diminishes oxidation, and the administration of testicular or ovarian extract increases oxidation in these animals. So also does the giving of spermin and hypophysis extract.

The complete removal of the pancreas causes severe diabetes, and its partial removal a lesser degree of the disease. In many cases of diabetes, though there may appear to be no disease of the pancreas, microscopic examination reveals disease of the islands of Langerhans, which are blood-glands. The ordinary secreting substance of the pancreas may be destroyed by cirrhosis of the organ without causing diabetes, so long as the islands of Langerhans are spared. It would seem that the islands of Langerhans produce the internal secretion requisite for the proper metabolism of carbohydrates. These islands, through the sympathetic nerves and the vasomotor action of the vessels, are under nervous influence. Hence the meaning of the term "psychic gastric and pancreatic secretion."

HEART BLOCK.

Among the subjects of special interest discussed at the recent meeting of the British Medical Association, few were of equal importance to that of heart block. Prof. Aschoff, of Freiburg, Germany, introduced the subject in a very able manner. He showed that febrile diseases did not cause inflammatory changes and degeneration in the myocardium as

often as had been taught, diphtheria and acute rheumatism being the main exceptions to the above. He went on to point out that when the bundle of His was affected that serious heart 'derangements' resulted. This bundle begins near the coronary vein, runs down the auricle and terminates on the ventricular walls and the septum. If this bundle is diseased the auricle contraction does not regularly nor properly pass on to the ventricles. This is what has been termed heart block. This bundle was discovered in 1845 by Purkinje, but was very fully studied by His more recently. Within the past ten years much work has been done on this subject.

Dr. J. McKenzie, of Burnley, who has given this subject much thought, stated that heart block was now known to be due to failure to conduct the stimulus from the auricle to the ventricle along this bundle. He also held that the condition was oftener one of irritation in the bundle than degeneration. Various forms of arrhythmia were due to this condition of disturbance in this bundle of muscle fibres. This knowledge was also of importance in the treatment of these cases of irregularity. The auricle may beat several times while the ventricle beats only once. This condition existed in Stokes-Adams syndrome, and was present in Cheyne-Stokes breathing.

Prof. Erlanger, of Baltimore, showed that by clamping the bundle of His the rhythm of the auricle and ventricle became deranged, and the contraction of the former more frequent than the latter. When the bundle is divided, Cheyne-Stokes breathing is induced. When the breathing becomes affected cerebral symptoms make their appearance and the medulla is very likely to be affected. It was, therefore, a question whether the heart or the brain was primarily the cause of the epileptiform seizures and comatose condition. They might be due to the brain anæmia arising from the heart trouble.

Prof. G. A. Gibson, of Edinburgh, expressed the condition as a divorce between the auricles and the ventricles. The contraction of the latter is delayed or may not occur at all. This causes arrhythmia.

Sir James Barr advised caution, as this was only a theory as yet. It was a new idea in medicine to have an impulse to contraction carried by a muscle bundle that did not contract.

A STUDY OF SYPHILIS.

In the April issue of the *American Journal of Dermatology* are to be found a number of articles on syphilis.

The first is by Edgar G. Ballenger, and deals with the spirochæta or *treponema pallida* of the disease. He prefers as staining agents

azur one, azur two, and Giesma's eosin. The evidence all goes to show that the treponema is the cause of the disease.

Dr. George M. Mackee, in writing upon the diagnostic importance of the spirochæta, remarks that the parasite has a definite appearance, is always found in primary and secondary lesions, has never been positively found in non-syphilitic sores, it is not found in tertiary lesions, it is found in inherited syphilis, it can be conveyed from man to apes, and in suspected chancre if the parasite is not found, syphilis did not develop.

The stages of syphilis are discussed by A. H. Ohmann-Dumesnil. He objects to the classification of syphilitic processes into primary, secondary and tertiary. It is merely a matter of taste when primary syphilis terminates. As to secondary and tertiary lesions, they may be found concurrently in the same patient. There is, therefore, no distinct time cleavage. It is proposed to speak of the lesions as the chancre, those of the superficial epithelium, and those of the deeper organs and connective tissues.

Syphilis in the new born or very young is the subject of Dr. E. F. Cushing's paper. He states that of children in institutions from one-half to one per cent. inherit the disease. The mortality among the victims of congenital syphilis is very great. He makes a distinction between infantile and foetal syphilis by stating that the former does not appear until the second month. Infantile syphilis is characterized by a bulbous or pemphigous eruption, almost always on the palms of the hands and the soles of the feet, yielding a serosanguinolent or purulent discharge, and followed by irregular ulcers. Among other symptoms should be mentioned coryza, syphilodermata, enlarged spleen, orchitis, changes in the bones, the syphilitic wig, and marasmus. The spirochæta should be looked for.

In the digestive tract syphilis may give rise to important symptoms, says Dr. Henry Illoway, though he says the disease does not frequently affect this system. There may be inflammation, gumma, ulceration and stricture. The rectum is most frequently affected.

With regard to the aural and nasal mucous membrane, Dr. W. A. Dayton claims that Hutchinson's three symptoms, notched teeth, interstitial keratitis, and otitis media suppurativa, may be absent. The nasal mucous membrane shows venous congestion, the inferior turbinates may be waxy-looking, and the mucous membrane may fill the post-nasal space. The lymphoid tissue in the pharynx is usually purple. Recurrent adenoids may be syphilitic. They should not be cured. When the ear is involved, the writer recommends tr. iodine, rather than potassium iodide. There is no occasion for surgery.

Dr. G. Sterling Ryerson contributes a paper on the effects of syphilis in the eye. He states that no part of the eye is exempt. There may be mucous patches in secondary, and ulceration in tertiary syphilis. The iris is most frequently attacked, and usually occurs within the first six months. Keratitis is also met with. Choroiditis and retinitis are late secondary or tertiary conditions. The ophthalmoscope may show a fine haze in the vitreous. There may be affection of the muscles and atrophy of the optic nerve. The treatment is mercury, leeches and rest to the eyes.

THE BLOOD GLANDS AS FACTORS IN DIABETES AND OBESITY.

It is now recognized that the various blood glands stand in close relationship to each other. Changes in one is apt to be followed by changes in another.

In acromegaly, in addition to the changes in the hypophysis, there are usually alterations in the sexual glands, the thymus, adrenals, and pancreas, as manifested by impotence, amenorrhœa, or diabetes. The thyroid is generally diseased, and usually is first deranged prior to the disturbance of the hypophysis. In cases of acromegaly with an over action of thyroid there is likely to be diabetes; but in those cases of the disease with an under action of the thyroid, or with myxœdema, there is an absence of diabetes. In cases of acromegaly with diabetes both the thyroid and pancreas are found in an altered condition.

In diabetes several glands may present changes. The pancreas, of course, mainly. There are usually impotence and amenorrhœa. It has been found the injection of the extract of the adrenals will cause glycosuria; so also in a marked degree with the extract of the thyroid gland. By giving thyroid extract all the symptoms of true diabetes can be produced. When thyroids are given in the treatment of acromegaly, glycosuria often follows. Glycosuria is often frequent in exophthalmic goitre, a disease in which there is hyperthyroidea. In Graves' disease of long standing and passing into myxœdema if glycosuria existed it disappears. In myxœdema glycosuria is very rare. In some cases of myxœdema glycosuria has been caused by thyroid treatment, especially as the disease is abating. These facts go to show that glycosuria and diabetes are common in all cases of hyperthyroidea and very rare in all cases of athyroidea. Infectious diseases may cause glycosuria by exciting the thyroid gland. Toxic agents and mental emotions may act in the same way. Bile in the blood may stimulate the thyroid and cause glycosuria. In tuberculosis and cancer there is often degen-

eration in the thyroid and consequently rarely diabetes in these diseases. Opium lessens the activity of the thyroid and is useful in diabetes. The over action of the thyroid in diabetes and Graves' disease may lead to its exhaustion and be followed by myxœdema and disappearance of the sugar. So, in cases of diabetes when tuberculosis comes on the sugar may lessen.

There is a distinct relationship between thyroid and the pancreas. When the pancreas is removed the thyroid becomes more active, and when the thyroid is removed the pancreas is stimulated. In over activity of the thyroid there may be no glycosuria if the pancreas is active. When the thyroid is removed new islands of Langerhaus seem to form in the pancreas.

It seems to appear that there are two factors in the production of diabetes: The over activity of the thyroid, and degeneration of the pancreas. If the thyroid is very active and the pancreas degenerated the diabetes will be severe. In old persons with degeneration of the pancreas, but also an inactive state of the thyroid, the diabetes is slight. If the thyroid is active and the pancreas healthy, the glycosuria may be only temporary. This explains the cases of glycosuria of the recurrent type. Diabetes may begin in this way, but the thyroid becomes continuously too active or the pancreas undergoes degeneration, and the condition of glycosuria becomes permanent.

Meats increase the activity of the thyroid, and meat-eaters are more liable to diabetes than those who do not use it. A diet containing much meat and carbohydrates is specially bad for the diabetic, and the one stimulates the thyroid, and the other furnishes the material for the formation of sugar. If much meat predisposes to diabetes, it tends to prevent tuberculosis by increasing the activity of the thyroid.

It would appear that the study of the function of these glands is throwing much light upon many phases of disease.

FACTORS IN THE COAGULABILITY OF THE BLOOD AND THEIR PRACTICAL SIGNIFICANCE.

Sir A. E. Wright placed the medical profession of Toronto, and, as his views become known, we hope the entire profession of the country, under a debt of gratitude by his lucid and interesting address at the Toronto Medical Society. He chose for his subject, "Factors in the Coagulability of the Blood and Their Practical Significance."

At the very outset of his address he discarded the views usually taught in physiological text-books regarding blood coagulation. He

held that these teachings were inaccurate and valueless—positively misleading. He contended that the coagulability of the blood depended upon the amount of calcium salts it contained, and not to a supposed fibrinogen ferment that no one had ever found.

He then went on to show that in certain conditions and diseases the amount of calcium in the blood was deficient and then the person would bleed freely. Such was the case in "bleeders." Often in typhoid fever and pulmonary disease, a very severe hæmorrhage might occur from a very small vessel, due to the fact that the calcium in the blood was not up to the standard. In such conditions as urticaria, purpura, chillblains, some forms of headache, and eczema, there was a reduced condition of the calcium in the blood, and a too free transudation of serum. This gave rise to irritation of the sensory nerves, resulting in itching, or pain. There is reduced coagulability in jaundice.

There are conditions caused by too much calcium in the blood. This was the case in thrombosis. The blood clotted in the veins. It was also met with in some cases where the edge of a wound remained dry and did not heal. There was not sufficient serum exudate to enable healing to take place. Then, again, in some septic affections, the coagulability of the blood was too great and the parts affected did not receive serum enough to restore these parts to health and rid them of the germ infecting them. He cited some interesting cases of this sort. He mentioned that in the convalescent stage of typhoid fever, thrombosis occurred in about six per cent. of the cases. He claimed that this was due to the large amount of calcium in the blood caused by the milk diet, an article rich in calcium salts.

Some people do not absorb calcium readily and are deficient in this mineral. These calcium salts may be given. If they do not absorb it, magnesium in some form may be administered, as it is found this increases the coagulability of the blood. Calcium lactate in a five per cent. solution may be employed hypodermically, but not the other salts of lime. Even this salt in too strong a solution may cause great pain, mentioning a case at point.

The use of fruits may cause decalcification of the blood, and lead to headaches, eczema, urticaria, etc. A milk diet had the opposite effect. We here mention some bleeders who have been entirely cured of their condition by an almost exclusive milk diet.

Sir A. E. Wright strongly recommended citric acid in all those conditions where the blood coagulated too readily and there was too much calcium in the blood. It may be given in doses of two drams from every two to four hours as required.

By this treatment the formation of thrombi could be prevented. Where wounds did heal because there was not sufficient serum exudate in the tissues, this treatment was of the utmost value. Then in some cases of severe septic wounds it was found that the blood contained too much calcium. This kept the parts affected too "dry." When citric acid was administered there commenced a free exudation of serum, which enabled the parts to contend successfully against the infecting germ. He mentioned a case of angina Ludovici, where the α -dema was extreme. It had been incised very freely, but the wounds remained quite dry. On giving citric acid the wounds began to bleed and became bathed in serum. The patient made a good recovery. Another case was referred to where an opening had been made into the abdomen. The wound did not heal, though free from infection of any sort. The walls of the wound were dry. Citric acid was ordered and soon the wound was quite moist and healing went on rapidly.

Too low a percentage of calcium in the blood and a reduced degree of coagulability favored the occurrence of α dema and dropsies. On the other hand, too high a percentage of calcium in the blood and an increased coagulability favored infection of the tissues and lessened their resisting power.

In cases of headache, urticaria, and eczema, where the calcium salts were deficient, much benefit could be obtained by prescribing the salts of calcium or magnesium. By this means the coagulability of the blood could be raised and the local transudation of serum reduced.

Many examples of albuminuria are caused by a lack of lime salts in the blood, and a lowered coagulability. The transudation of serum may then take place through healthy urinary tubules. If the albuminuria is due to this cause, a serious view of the cases need not be held. Proper treatment relieves the conditions. Many of these cases are cured by a milk diet, which is rich in lime.

It would, therefore, follow that in the application of these views instances of dropsy, urticaria, local α dema, anasarca, hæmorrhages, "physiological albuminuria," purpura, the "bleeding disease," some varieties of headache, eczema, chilblains, etc., milk should be employed as a diet, and the salts of calcium and magnesium administered internally. On the other hand, examples of wounds that do not heal, local infections like carbuncles and boils, the formation of thrombi, should be treated by citric acid to lower the coagulability of the blood, and bathe the parts affected more freely with serum.

He cautioned against the administration of calcium chloride hypodermically, as it had been known to cause severe sloughing.

THE OPSONIC THEORY.

In another part of this issue we publish an abstract of Sir A. E. Wright's address at the opening of the Medical College of Toronto for this session. Sir A. E. Wright has won world-wide fame for his work on the preventive inoculation in typhoid fever. His later work has been along another and extremely important line, that looks towards the providing of vaccines for all the infectious diseases.

Some years ago, Metchnikoff made the announcement that the white blood corpuscles consumed the invading bacteria. This was the now famous doctrine of phagocytosis.

But Sir A. E. Wright, during his investigations, found that the white blood corpuscles when separated from the blood had no power to ingest and digest bacteria, but that they regained this power when some blood serum was introduced into the solution containing the leucocytes and the bacteria. There was evidently something in the serum that brought about the process of phagocytosis.

It became necessary to ascertain whether this was due to a stimulating influence of the serum on the leucocytes or to some action of it on the bacteria. We need not just now go into details, but it was made quite clear by these experiments that the action of the serum was on the bacteria. This material or ingredient in the serum was called "opsonin," a word meaning to prepare for food. Bacteria treated with this opsonin are readily digested by the leucocytes.

When a person is infected by a certain germ, the phagocytic power of his leucocytes is compared with that of a normal person. This gives the opsonic index. Suppose a person is suffering with tuberculosis and it is found that his white corpuscles can only digest the bacilli at the rate of 0.5 as compared with 1.0 of a healthy individual, his opsonic index is only one-half the normal. Whatever will raise the opsonic index makes for the recovery of the patient.

Sir A. E. Wright has found that this opsonic index may be raised by injecting into the tissues of the infected person the dead bacteria, corresponding with his disease, suspended in a saline solution. The utmost care must be taken not to give too large a dose of the dead bacteria, as the opsonic index may thereby be decidedly reduced, and the patient suffer much harm.

During the address a number of very interesting cases were cited which had been much benefitted or cured by this method of treatment. The key to this method of treatment is that the dead bacteria yield something to the blood or causes the blood to produce something that enables the white corpuscles to devour the living bacteria of the same variety.

HEALTH OF SCHOOL CHILDREN.

In another department will be found an abstract of a recent paper by Dr. Luther Halsey Gulick, Director of Physical Training for the New York public schools, that cannot fail to be of interest to every medical man, not only in his professional capacity but also in that of a citizen. The writer's name is one of the best known among educators, his unique position has given him opportunities of which he has made most advantageous use, and his conclusions will be generally received with the greatest attention. The immensity of the school-population in New York and the great congestion attending the physical features of the city site intensify the difficulties with which the school authorities have to cope, but it places the experiments for all school conditions, as it were, *in vacuo*; what can be done for New York should be possible anywhere.

The ideals which he places before us will prove difficult of realization in New York; to provide the proper amount of space for playground for Public School 188, which has 5,000 attendance, would take more than a city block, besides the ground on which the building should stand; to furnish a playground within walking distance of each child is now impossible, if each child below 14th Street were to be given a space 3 yards square would mean that every fifth building would have to be torn down; the development of many-storied playgrounds seems the only solution. The most serious obstacle is the lack of informed and active public opinion, and in the formation of this the physician, with his special knowledge, should bear the largest part.

The bearing of this upon Canadian conditions is the warning it conveys to those living in cities to see that necessary conditions are fulfilled before the rapid increase in population makes them impossible, and to see that public opinion is properly awake to the necessities of the school population. Generally speaking in Canada a mistaken sense of economy has prevented even the most elementary attempts to better conditions, an economy so short-sighted as to be blind to the value to a country of the healthy development of its real capital, so short-sighted as to cheerfully pay for the attempt to teach children under conditions which made the mental processes slow or impossible. The inability to see past the next polling day, the speciousness of the argument of the money saved, crowds our children into buildings too small, with bad ventilation, lighting and heating. It is hoped that the example of New York may help in a measure to correct this attitude.

PERSONAL AND NEWS ITEMS.

Dr. Angus MacKinnon is the first man in his profession in Guelph who has taken to the runabout auto for city and adjacent country work.

The Fredericton Hospital is having a new wing added, to be known as "The Asa Dow Wing."

An energetic movement is on foot to erect a hospital in Saskatoon to cost about \$18,000.

Niagara Falls has now a fine new hospital in the form of a two-story brick building.

Dr. D. L. McAlpine, one of the pioneer citizens of Vancouver, was recently struck by a car fender and seriously injured.

Dr. C. B. Coughlin, of Peterborough, has been appointed superintendent of the Institute for the Deaf and Dumb at Belleville.

Dr. William Crawford Palmer, formerly of Guelph, son of the late Archdeacon Palmer, Toronto, died suddenly in Birkenhead, Eng., on September 28.

Through the efforts of Dr. Roberts, Medical Health Officer for Hamilton, a by-law will be submitted to the council for a vote of \$30,000 to be applied towards the erection of a Home for Incurables.

The Association of Hospital Superintendents, which recently held its meeting in Buffalo, has decided to meet next year, on 19th September, in Chicago.

Dr. Neil A. Munro, of St. Thomas, left two weeks ago for Saginaw, where he has accepted a position as house surgeon in the City Hospital.

Dr. A. D. McIntyre has been appointed medical superintendent of the Kingston General Hospital, and will be succeeded at Petrolea by Dr. C. H. Smith, recently of Lawrence Station.

Dr. and Mrs. C. O. Fairbank and family, of Petrolea, left a couple of weeks ago for Santa Barbara, California, where they will spend the winter.

Dr. Frank Allin, of Parkhill, is going to China as a medical missionary. He will be supported by the young people's societies of the district.

Dr. W. W. Boyce, of Belleville, has secured the position as physician to the Provincial Deaf and Dumb Institute, which is situated there. His duties commenced on October 1st. He succeeds Dr. Goldsmith, sr.

The returns from 745 division registrars of the province give 2,570 deaths from all causes, representing a population of 2,091,183, which

makes a death-rate of 14.2 in 1,000, and for the same month last year 2,200 deaths were reported from a population of 100,000 less.

The Board of Trustees of the Toronto General Hospital voted down Dr. Noble's motion for open meetings of the board. The finances of the institution are said to be in a serious condition, as it is going behind at the rate of \$30 a day.

Dr. Fred J. Hart has gone to Winnipeg. The partnership, which had existed between the brothers for eleven years, has been dissolved. Dr. Fred going to Winnipeg, Dr. Victor Hart continuing to practice in Barrie.

Medical Health Officer Underhill has freely expressed his opinion of the danger that existed of Vancouver being made the dumping ground for the province and the Northwest of crippled and indigent persons who stand in need of relief.

The University Caput, after careful consideration, decided to impose a fine of \$5.00 each upon thirty-five students against whom there was evidence to connect them with the inter-college and inter-year hustles. There appears to be a determined effort to stop these performances.

Mayor C. H. Waterous has accepted a position on the board of the John H. Stratford Hospital in Brantford, succeeding the late Dr. Digby. The hospital is now heated by natural gas. Mr. J. E. Killmaster has been appointed secretary of the board. Many improvements have been made in the hospital.

Dr. Edith Beatty has opened an office at 165 Norfolk street, Guelph, for the treatment of diseases of women and children. Dr. Beatty is well known there, and stands high in the estimation of the medical men as well as of the general public, who will wish her success in her new field of labor.

The Reddick Medical Bill, providing for a Dominion registration and diploma entitling the holder to practice anywhere in Canada, was a wise bit of legislation designed for the good of the whole country; but it has been impossible to secure the adoption of this scheme because of the opposition of picayune provincial politicians.

The Board of Health for the Province of Ontario for the next three years shall consist of the following medical gentlemen:—Dr. Charles Sheard, Toronto; Dr. Milton Ira Beeman, Newburgh; Dr. John William Scott McCullough, Alliston; Dr. Charles B. Coughlin, Peterborough; Dr. William J. Robinson, Guelph, and Dr. William R. Hall, of Chatham.

According to the *British Medical Journal*, the incomes of English doctors have fallen off 25 per cent. since 1900. Among the causes named for the falling off is the gradual dying down of the epidemic

of influenza, which caused 19,000 deaths. There has been a subsidence of 1,900 in other epidemic sicknesses, and the decrease of winter ailments is attributable, it is thought, to the mildness of recent winters.

The mayor of Huddersfield, England, gives every mother a promissory note for £1 payable twelve months after her confinement if her baby is alive and well. With this promissory note are plain directions as to what to do and what not to do. Special insistence is laid upon the importance of suckling the child, and the resultant diminution of mortality is enormous.

Dr. Goldwin Smith in referring to the subject of vivisection writes thus:—"If the torture of the animal is involved, common humanity revolts, and in that feeling I most heartily join. The injury to the character of the operator must be almost as great as the pain to the victim. I cannot conceive that knowledge could be worth purchasing at such a cost."

The Board of Health of Hamilton is moving in the right direction in seeking for laboratory equipment. No health department can do its duty well and thoroughly without it. Men do not hunt bacteria with reading glasses, and the chemical tests which must be part of the office routine cannot be made without the necessary apparatus and supplies. To maintain a costly health department unequipped is folly.

Seven thousand patients have been cared for by the Victorian Order in the past eight months in Canada, and district nurses have paid over 40,000 visits besides 400 night calls, and nearly 300 days of continuous nursing. In Baddeck, N.S., the nurse does much work, going sometimes 40 miles into the country, and remaining perhaps two or three weeks with a case.

Dr. Greville MacDonald, of London, writing in the *Contemporary Review*, concludes his remarks on vivisection as follows:—1. Vivisection ought to be prohibited for purposes of teaching. 2. Physiological laboratories should be more rigidly inspected. 3. Upon living dogs or horses no dissections should be made. 4. The administration of the drug curara should be made a criminal act. This drug makes the subject incapable of expressing suffering, although it may experience it.

During the month of September, 282 patients were admitted to the Montreal General Hospital, and 285 were discharged. There were twenty-one deaths, nine of which occurred within three days of admission. The daily average of sick persons in the hospital was 200, and the highest number on any one day was 207. Outdoor consultations numbered 3,730, a slight increase over previous month. The ambulance made 131 runs in response to calls. The average number of visitors to the hospital on visiting days was 200.

Dr. Manion, Medical Health Officer, Fort William, informed the board that the McKellar Hospital is taxed beyond its capacity; that there are about 80 patients being cared for in the building, although there are accommodations for only about 60. The doctor said that a town the size of Fort William should be in a position at all times to care for 150 patients. The doctor also informed the Board that there are too few nurses at the hospital. It was agreed that the town guarantee the hospital debentures for \$40,000 for additional accommodation.

The annual meeting of the Winnipeg Medical Association was held on 8th October at the medical library rooms, McDermot avenue. President Dr. Bell was in the chair, and after the annual reports had been read, the following officers were elected for the ensuing year: President, Dr. E. W. Montgomery; first vice-president, Dr. J. R. Davidson; second vice-president, Dr. N. J. McLean; secretary-treasurer, Dr. C. H. Vrooman; councillors, Drs. McKenty, H. Mackay, Gallo-way and Todd. Dr. Bell, the retiring president, then gave his address, at the close of which he invited the members present to a supper at the Mariaggi, whither the party adjourned and brought their meeting to a very enjoyable ending.

The new hospital for Port Arthur is already past the first story; the fine airy basement is completed and covered. It is to be a building of three stories, built of red cement brick upon a stone foundation, the trimmings to be of the white Simpson Island stone. The total cost complete will be \$40,000. Twenty thousand dollars have already been subscribed, and the directors expect to open its doors free from debt. The capacity will be 50 beds, and it is expected to be ready for occupancy in the early spring. This hospital will be very complete, with all the modern improvements which the up-to-date hospital requires. The gentlemen in charge of the building are Messrs. Wideman, McCutcheon, Meikle, Hewish and A. L. Russell.

People are very fond of talking about the present as being the age of the young man. The old man, they declare, has had his day. Youth is now at the helm. Now, without disputing the fact that there are plenty of brilliant youngsters doing good work, the idea that the 20th century is essentially the age of the young man is absurd. As a matter of fact, the young man was much more prominent a century or more ago. Pitt was a mere boy when he became prime minister. Wellington was only thirty-four when he won the great battle of Assaye, and just forty when he took supreme command in the Peninsula. Nelson won the Battle of the Nile at the age of thirty-nine. The great Admiral Cochrane won his first important battle at twenty-six. Lord Hawke was

a rear-admiral at forty-two. Such a list might be extended almost indefinitely, but the instances given are sufficient to show that the great men of action of the eighteenth century were, most of them, young.

The Ontario Government has decided upon a practical experiment with a view to educating the people of the Province to the dangers of tuberculosis and the best methods to be pursued in preventing that disease. An arrangement has been made to secure a duplication of the tuberculosis exhibit, similar to that shown here during the recent meeting of the British Medical Association, from the National Association, for the Study and Prevention of Tuberculosis, with headquarters at New York. This will be supplemented by materials from Europe. It is intended that the exhibit, which will become permanent property of the Province, will be displayed for a reasonable length of time in every city, town and large sized village in the Province. An official of the Board of Health, or some competent person appointed by that body, will be in charge, and will give lectures illustrating the use of the appliances and information respecting the methods to be followed in the attempt to prevent the spread of tuberculosis.

Notices have been sent to many physicians throughout the United States, and are appearing in the medical and public press, regarding an "American International Tuberculosis Congress" to be held in New York City, November 14 to 16 next, and an association known as "The American Anti-Tuberculosis League," which is to meet in Atlantic City next June at the time of the meeting of the American Medical Association. It should be stated that the gathering in New York next November and the one in Atlantic City next June have no connection whatever with the International Congress on Tuberculosis authorized at the last session in Paris in 1905, which will hold its meeting in Washington in 1908 under the auspices of the National Association for the Study and Prevention of Tuberculosis. Professor Adami, whose name has been advertised in connection with the former schemes, asserts that it has been done wholly without his authority, and that to his knowledge no physician of repute in the United States has signified his participation in the above "American International Tuberculosis Congress."

In Dr. C. A. Hodgett's report to the Provincial Board of Health the following remarks are found:—

"Often it is found that the life of the first-born is sacrificed during the early months of its life by reason of the lack of knowledge on the part of the parents in the care necessary in the feeding of this valuable portion of our population, and a lack of knowledge as to the care in toilet and personal hygiene of these dear little infants.

“The same attention given by the parents as to how to bring up the baby as is given by them to the rearing of young chickens, or the thoroughbred calf, or other denizens of the barnyard, particularly as regards feeding, would be followed by equally good results.

“The people of this province have yet to realize the importance of this branch of education, and that no false modesty must be permitted to exist in regard to it.

“The study of the infant life is more important than that of animal and vegetable life, or the making of butter, the baking of bread and the all-devoured American pie.

“The young women of our cities must be taught how to feed, clothe and nurse the baby, and be shown how much more important to the state is this delicate subject than the feeding, fondling and toilet of the pet dog or cat or the fascination of gambling associated with bridge whist and other like social fads.”

OBITUARY.

JAMES STEWART, M.D., C.M., L.R.C.P.

One of Montreal's leading physicians passed away on 7th October, 1906, at the age of 59. He graduated as a very young man, and practised for a number of years in Brucefield, Huron county, Ontario. He removed to Montreal nearly 25 years ago, and ever since has been connected with McGill Medical College as professor of therapeutics, clinical medicine and nervous diseases. He was a particularly clear and popular teacher. He was also a frequent contributor to medical literature, his article bearing the stamp of marked originality and careful study. About two years ago he suffered from blood poisoning, and since then his health was not good. He was never married. He was a true man and was beloved by all who came in contact with him.

GEORGE McINTOSH, M.D.

A sad death occurred, 3rd October, 1906, at McDonald's Corners, when Dr. George McIntosh, a rising young physician, died from typhoid fever. The deceased graduated from Queen's Medical College about two years ago. He was married last August to Miss Blair, of McDonald's Corners, a trained nurse. The former home of the deceased was at North Williamsburg, and the remains were taken there for interment.

THOMAS HARRISON, M.D.

One of the best known physicians in New Brunswick died at Fredericton on September 16th, 1906. The funeral, on 20th September, was very largely attended, there being present the senate of the university, the faculty of the university, members of the alumni association, students of the university, the teachers of the city.

F. P. TAYLOR, M.D.

Dr. Taylor died at Charlottetown, P.E.I., on 18th September, 1906. He was a highly esteemed citizen and enjoyed a large practice. He belonged to one of the oldest and best known families of New Brunswick. He took an active share in the affairs of the city and in the management of the hospital. He left a widow and family to mourn his loss.

GEORGE S. ARMSTRONG, M.D.

Dr. Armstrong died at Spokane, Washington State, on 2nd October, 1906, in 48th year. Deceased was a native of Flesherton, Ontario. He was a graduate of Trinity Medical College, and took a post-graduate course in Britain, obtaining diplomas from London, Edinburgh and Glasgow. He acted as surgeon for a section of the C.P.R. during its construction, and was also associated with Dr. Sproule, of Markdale. He was instrumental in organizing the Washington State Medical Society after the model of the Ontario Medical Council. He was surgeon to the Northern Pacific Railway. For a time he was United States Consul at Rossland, B.C. He was a very successful practitioner, being very popular with all classes. Messrs. E. Aikenhead, of Toronto, and J. D. Clarke, of Ottawa, are brothers-in-law. Throughout his professional career he took an active interest in health matters in the West.

R. B. M. WILEY, M.D.

Dr. Wiley died at Andover, N.B., on the 3rd of September. He was forty-five years of age and leaves a wife and two sons. Dr. Wiley graduated from Jefferson Medical College in 1890. He had an extensive practice at Andover, and owing to his many sterling qualities, his death will be a great loss to the community.

MINERVA M. GREENAWAY, M.D.

The death on 21st September, 1906, at St. Michael's Hospital (where she had been for ten days suffering from a severe attack of typhoid fever) of Dr. Minerva M. Greenaway, removes one of the most accomplished and beloved lady doctors of the Dominion. The circumstances of her passing away are particularly sad, for it was only two weeks prior that she returned to Toronto, after patiently nursing at her home in Tottenham her father and two sisters, who were suffering from the same disease, to which she herself succumbed, the father's illness proving fatal in spite of the careful attention of Dr. Greenaway.

The deceased lady was a graduate of the Women's Medical College in 1899, and took first-class honors at Trinity University. She afterwards took a post-graduate course for one year at a West Philadelphia Hospital. For the past five years she has carried on a successful practice in Toronto. Dr. Greenaway was a lecturer on the diseases of children at the Women's Medical College, Secretary of the Alumnae Association and lecturer to the nurses at the Orthopedic Hospital. Dr. Greenaway was born in Tottenham and received her early education at Barrie High School.

 CHARLES McDONALD, M.D.

Dr. MacDonald, of St. Stephen, N.B., formerly of Milltown, N.B., died suddenly on July 17th. He graduated from McGill University a few years ago, and was in his 29th year. He was married, and recently was in charge of the hospital at Eagle Lake, Maine.

 GEORGE J. CAMPBELL, M.D.

Dr. Campbell, of Halifax, while on his wedding trip, died during the month of July of acute pneumonia.

 J. W. CHISHOLM, M.D.

Dr. Chisholm, of Halifax, was drowned July 23rd. He was swimming and, becoming exhausted; sank.

BOOK REVIEWS.

PROGRESSIVE MEDICINE.

A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by H. A. Hare, M.D., and H. R. M. Landis, M.D., September, 1906. Lea Brothers and Company, Philadelphia and New York. Paper, \$6.00 per annum.

This is the third volume for this year, and contains a careful review of recent literature on Diseases of the Thorax, by William Ewart, F.R.C.P.; on Dermatology and Syphilis, by W. S. Gottheil, M.D.; on Obstetrics, by R. C. Norris, M.D., and on the Nervous System, by W. G. Spiller, M.D. These articles are all excellent and show that the writers have spent much time upon each section. This volume covers four very important topics and covers them well.

THE TEETH AND THEIR CARE.

By Thaddeus P. Hyatt, D.D.S., Member Second District Dental Society of the State of New York. Brooklyn-New York King Press, 1906.

This little booklet of 45 pages gives some very useful information on the development and care of the teeth. There is altogether too little attention paid to this subject. A little care would avoid much pain and save many a tooth. A book like this might be read with much profit by the general public, and doctors would do well to recommend it to their patients.

A MANUAL OF OTOLOGY.

By Gorham Bacon, A.B., M.D., Professor of Otology in the College of Physicians and Surgeons, Columbia University, New York; Aural Surgeon, New York Eye and Ear Infirmary. With an introductory chapter by Clarence John Blake, M.D., Professor of Otology in Harvard University. Fourth edition, revised and enlarged. Handsome 12mo volume of 485 pages, with 134 illustrations and 11 plates. Price, cloth, \$2.25 net. Lea Brothers & Co., Publishers, New York and Philadelphia, 1906.

In the rapid exhaustion of three revisions of this work the profession at large, as well as teachers of otology have come to recognize and appreciate it as "The Standard Manual" of the subject on which it treats.

The author in this new edition has improved and added to the illustrations and has found it necessary to increase the number of pages to enable him to include all the important advances made in otology since the publication of the third edition.

Among the new topics considered may be mentioned Osteomyelitis, Primary Jugular Bulb Thrombosis and Suppurative Inflammation of the Labyrinth, while the portions treating on Leucocytosis, Lumbar Puncture and the Treatment of Facial Paralysis, have been entirely rewritten.

In view of the importance of the examination of pus, especially in suppurative middle ear disease, the method of preparing smears from pus, the making of cultivations and the physiological inoculation experimentation will be found carefully considered in an appendix at the end of the volume.

The author has endeavored to enhance the clinical character of the work so as to make it more than ever serviceable to both students and practitioners.

IN THE VAN.

In the Van or "The Builders," by Price-Brown (Eric Bohn), Author of "How Hartman Won." Illustrated by F. H. Brigden, O.S.A. Toronto: McLeod and Allen, Publishers. Price, \$1.25.

Dr. J. Price-Brown, of Toronto, needs no introduction to Canadians as a writer. This is not his first book. He is an extensive contributor to medical literature as well as to general literature. The present volume is a very interesting and readable one. It takes us back to the days of 1813. Harold Manning is married in Westminster Abbey and, with his bride, Helen Brandon, departs with his regiment for Halifax. The regiment marches overland via Montreal and Ottawa, and, finally, arrives at Penetanguishene, where it goes into quarters. There is much historical narrative and thrilling adventure in the book, which lends a fine color to the story. Dr. Price-Brown has worked up the period well and the incidents of his immediate subject in particular. We hope that the book may find a large sale, as it undoubtedly merits such. It is cause for much congratulation that among the many products made in this country, we can now point with pride to so many books, literary, scientific, and medical, and say "Made in Canada." We wish to felicitate both author and publishers in this case.

INTERNATIONAL CLINICS.

A quarterly of illustrated Clinical Lectures and especially prepared Original Articles. Edited by A. O. J. Kelly, M.D., Philadelphia. Vol. III, Sixteenth series, 1906. Philadelphia and London; J. B. Lippincott & Company. Price, \$2.25.

This volume contains articles on Medicine, Treatment, Surgery, Obstetrics, Gynæcology, Rhinology, Otolgy and Pathology. The volume is well illustrated. The articles are the very best that could be produced on each topic, and are from the pens of strong writers. A perusal of the contents shows that a very wide range of subjects are discussed. The volume, like all the others of the series, will prove of the utmost utility to those who may possess it. We can very cordially recommend this publication.

KIEPE'S MATERIA MEDICA AND THERAPEUTICS.

A Manual for Students and Physicians attending post-graduate courses. By Edward J. Kiepe, Professor of Materia Medica in the Department of Pharmacy, and Adjunct-Professor of Materia Medica and Pharmacology in the Medical Department, University of Buffalo. In one 12mo volume of 265 pages. Cloth, \$1.00, net. Lea Brothers & Co., Publishers, Philadelphia and New York, 1906.

The *Medical Epitome Series* when complete will consist of twenty-three volumes--this is the twentieth, leaving but three more to complete the set. It is easy for students, and practitioners as well, to post themselves to date for examinations or practical purposes, or attending post-graduate courses, by reading these authoritative little books. They are written by professors or teachers in colleges of high standing, and the subjects are treated in a manner as clear, thorough and interesting as the necessary limits of space will permit.

The present addition to the series is quite as good as any of the former numbers, and this is saying much. For students and busy practitioners this book on materia medica and therapeutics is an excellent one by which to refresh their memories. The books of this series are on special topics and written by specialists.

THE PUERPERIUM.

The Puerperium, or the Management of the Lying-in Woman and Newborn Infant. By C. Nepean Longridge, M.D., Ch.B. (Vict.), F.R.C.S., M.R.C.P., Pathologist and Registrar, Late Resident Medical Officer at Queen Charlotte's Lying-in Hospital, London. Adlard & Son, Bartholomew Close, 1906. Price, 5s. net.

This book deals with post-partum collapse and hæmorrhage, lacerations, the uterus after delivery, duties of doctor, care of patient, septic diseases, thrombosis, phlegmasia, clampsia, the management of the child,

as to respiration, the cord, bathing, feeding, digestive troubles, etc. The book is certainly an excellent guide on these topics. It gives the very latest views and in a very concise form. The author is to be congratulated on the results of his studies. The book is got up in a very neat and attractive form. The paper, type and binding are all that could be desired. This is a convenient little work and covers all that is known on a very important part of every general practitioner's duties. We can, therefore, commend the book.

MISCELLANEOUS.

ENDOMETRITIS.

J. J. O'Sullivan, M.D., New York City, says: Being a firm friend of Glyco-Thymoline for many years, I have no hesitation in endorsing it at any time. As regards my experience with it in gynecology, will say that I have a record of some ninety cases in which I have used Glyco-Thymoline to a greater or less degree, and have always found it of great value in reducing congestions and engorgements and promoting a healthy condition of the tissue.

The following cases serve to illustrate the usual method followed in applying this agent:—

Case 1. Mrs. H. G., aged 24; married three years; multipara; occupation, housewife; gave the following history: Began menstruating at age of 14 years, and had always had some pain, which had, however, become intense during the last two. Past two months had suffered backache and pain through the pelvic region, bowels constipated. Digital examination showed the cervix to be very tender and engorged and with some slight congestion of the uterus itself, accompanied by a profuse whitish discharge. Diagnosis of endocervicitis being made, a tampon of cotton soaked in pure Glyco-Thymoline was applied and patient directed to inject small amount of Glyco-Thymoline pure into vagina twice a day. Tampons of cotton and Glyco-Thymoline were repeated every other day and patient discharged in one month cured. Aside from an occasional saline laxative no other treatment was used.

Case 2. Mrs. M. H., aged 21; married; multipara; occupation, housewife. Came to me complaining of intense pain throughout the pelvic region, feeling of weight and bearing-down sensation, bowels constipated and frequent micturition, having to void her urine from five

to six times nightly, which was accompanied by severe burning and tenesmus. An examination disclosed a lacerated cervix with considerable inflammation of the endometrium. Treatment consisted of tampons of cotton and pure Glyco-Thymoline applied every second day with intrauterine douches of a hot 25% solution of Glyco-Thymoline applied by means of Chamberlain's glass tube. This patient has been under my treatment for three months now and the laceration has almost healed, which I expect to be complete in two or three weeks, when I will discharge her, the endometritis having long since disappeared. This patient had been advised by a brother practitioner that it would be impossible to relieve the cervical laceration without an operation.

Case 3. Mrs. McC., aged 42 years; multipara; occupation, housewife. Began menstruating at age of 13 years. Has had four children and two miscarriages. Had always experienced pain preceding periods until the last, when pain persisted throughout the week and when I first saw her she complained of most distressing backache, bearing-down pains and pain generally throughout the entire pelvic region; associated with these symptoms was considerable vesical irritation, causing her to void urine four to five times every night. An examination disclosed a slight laceration of the cervix and an inflammation of the lining membrane which extended to and just beyond the internal os. Treatment consisted of tampons of cotton and Glyco-Thymoline applied every third day and hot vaginal douches of Glyco-Thymoline, two drachms to the pint for one week twice a day, increased to three drachms to the pint for two weeks longer, at the end of which time she was discharged cured, with directions to continue the douche for two weeks longer.

SANMETTO IN GONORRHOEA.

Dr. T. L. McDermott, of Louisville, Ky., writing, says the best results from Sanmetto in his hands were obtained in sub-acute gonorrhoea and gleet, in which the results in many cases were very marked, and for this exasperating ailment sufficiently rapid to encourage the patient to continue the treatment. He says that this is in itself no small measure of praise, for all physicians are aware of the fugitive nature of these patients, their lengthened chronicity, and the painstaking attention necessary to effect a cure. He says that he has seen excellent results from Sanmetto in many cases of nocturnal enuresis, cystic catarrh, and other functional diseases of the bladder; however, its general use by the profession speaks loudest of its efficiency in these cases.

APOLLINARIS AND APENTA WATERS.

Apollinaris was prominently exhibited at the British Medical Association meeting. This famous beverage is an acidulated alkaline table water of absolute purity and high effervescence. It is bottled at the spring at Neuenahr, Rhenish, Prussia, Germany, and only with its own natural gas.

To the happy combination of its constituents Apollinaris Water owes that peculiar softness of flavour which makes it such a pleasant adjunct to the dinner table, whilst medical men assert that its anti-acid properties successfully combat dyspeptic conditions which are so very common. Its slight alkalinity and its sparkling character render it very suitable for mixing with wines, etc., both on account of its taste and in its qualities of heightening rather than deteriorating the flavour of the most delicate wines, and the preference is now universally accorded to it as a dietetic and delightful beverage.

The London *Lancet* recently sent a special commissioner to examine the Apollinaris Spring, and his report shows the supply of water is as abundant as ever, notwithstanding that the yearly output has reached the enormous total of thirty million bottles, and still there is not the faintest evidence of the supply of both water and gas diminishing, the quantity being considerably in advance of present demands. The report also describes the careful manner in which the water is collected from the spring and bottled for exportation, so as to retain all its natural properties, and of the trouble taken to preserve the cleanliness of the water. It is moreover maintained that the effects of the salts in natural mineral waters are such as cannot be obtained from any artificial imitation of them.

Whenever Apollinaris has been exhibited it has invariably received the highest recognition, for example:—At the Paris International Exhibition, 1879, when it received the Gold Medal; at the International Health Exhibition, 1884; at the Centennial International Exhibition, Melbourne, 1888; at the Paris Universal Exhibition, 1889; at the World's Fair, Chicago, 1893; at the Antwerp Exhibition, 1894; and at the Dusseldorf Exhibition, 1902, where it received the highest awards accorded to natural mineral waters. Apollinaris was also awarded the Royal Prussian State Medal in 1902. At the St. Louis Exposition, 1904, it received the Grand Prix.

The well known Apenta Water was also included in the Apollinaris Company's exhibit.

Apenta is a natural purgative water from the Apenta Springs at Budapest, Hungary.

It is suitable for continuous use and is remarkable for its richness in its sodium and magnesium sulphates as well as for its uniform strength and composition.

The bottling of this water is under strict scientific and hygienic supervision.

It was awarded the Silver Medal at the Paris Exposition, 1900, and at Milan, 1903 ("Corso pro Infantia")! At the St. Louis Exposition, 1904, it received the Gold Medal.

"Sparkling Apenta Splits" were also displayed in this exhibit. This water, which is natural Apenta, but carbonated, was recently put on the market by the Apollinaris Company.

It is bottled at the Apenta Springs and is considered a pleasant and refreshing aperient for morning use.

FEEDING THE CONVALESCENT.

After days or weeks of medication, as the case may be, more than mere passing consideration is due the stomach of the convalescent.

The diet must contain not only the food elements necessary for repair of all the tissues, but it must be appetizing.

The addition of EGG-O-SEE, the flaked whole-wheat food, to a diet of milk, eggs and fruit, is a most welcome departure and will be not only eagerly acceptable, but will materially aid the reconstruction processes by supplying to the cells the diversified food elements which are more abundant in wheat than any other product of the soil. Order Egg-O-See for your patient and witness the resultant satisfaction.

If you have not eaten EGG-O-SEE address the Egg-O-See Cereal Co., Quincy, Ill., and receive full-size package free of cost.

PEPTO-MANGAN.

This is an arbitrarily coined word, and is the exclusive property of the M. J. Breitenbach Company. For twelve years we have been advertising the fact that Pepto-Mangan (irrespective of the name Gude) is a trade-mark name, registered October 13, 1891, and is our exclusive property.

In order that there may be no misunderstanding, we call attention again to the fact that Pepto-Mangan is not a synonym for any other iron preparation, for there is only one Pepto-Mangan.

CANADIAN MEDICAL EXCHANGE.

Medical men cannot be too often reminded that when they are thinking of selling out their practice, that it should be done quietly, quickly, and with the least publicity possible. It is very detrimental to one's practice to have it locally known that the physician is contemplating removing from their midst. Dr. Hamill who conducts the Canadian Medical Exchange for the purchase and sale of medical practices has certainly systematized his methods to perfection so as to insure a short-cut to the goal desired, and we feel safe in saying that physicians stand a better chance of selling their practices by having their offer on Dr. Hamill's register than by all other methods combined that they could adopt.

NOTICE TO MEDICAL PROFESSION.

At a meeting of the American Surgical Trade Association held in Philadelphia, June, 1906, it was resolved that after January 1st, 1907, the trade adopt the French scale for all catheters, bougies and sounds.

A committee was appointed for the purpose of getting up a proper and accurate French scale card, and the same will be mailed to you.

Every physician will see the importance of this step, as you are all acquainted with the annoyance of having catheters, bougies and sounds, and other instruments, marked in American English and French numbers.

You are requested from above date to use only the French scale in ordering such goods, and when no scale is specified orders will be filled by the French scale.

YOUR DEALER.

AFTER MANY DAYS.

That "honesty is the best policy" is strikingly illustrated by the relation of Scott's Emulsion to the requirements of the new Pure Food Law.

At the present moment the manufacturers of preparations which contain alcohol or harmful ingredients, are greatly worried at being compelled to come out into the open and change their formulas, or state the harmful ingredients on their labels

Scott's Emulsion, on the other hand, pursues the even tenor of its way, undisturbed and unruffled. It has always anticipated the new law, in that it never contained any harmful ingredients. Consequently no change of formula or label is necessary.

Through forcing alcoholic or harmful ingredients to be mentioned on the labels, the new Pure Food Law frees Scott's Emulsion from a tremendous amount of competition.

Thirty years of square, honest manufacture is rewarded by the fact that Scott's Emulsion is not only not hindered, but is actually helped by the Pure Food Law.

SCIENCE AND MEDICINE FOR AUTUMNAL COUGHS AND COLDS.

Have your patient bathe the feet in hot water before retiring and drink a pint of hot lemonade. Two Antikamnia and Codeine Tablets taken with the lemonade will quiet the nerves, produce sleep and help break up the cold.

Patients should be advised, when tempted to cough, to take a deep breath, filling every air cell, holding it until the warming, soothing effect comes, or so long as is reasonable, and mark the mollifying result on the cough, which, even when the cough seems unavoidable, will often be found under control. It will help to minimize the cough, and in the milder cases will stop it altogether after a little perseverance. The explanation of this is that there is a liberation of nitrogen in the air cells, which has a quieting effect on the irritated mucous membrane.

If the cough is persistent, or deep-seated, and especially if it is annoying at night, one Antikamnia and Codeine Tablet slowly dissolved in the mouth will quiet the nervous tickling and stop the cough.

AN IMPORTANT DISCOVERY.

One of the most interesting and valuable discoveries in the realms of medicine was the discovery by Prof. A. M. Clover, B.S., Ph.D., of the University of Michigan, when, after several years of patient study and investigation, he succeeded in isolating a new non-toxic substance possessing most powerful germicidal properties.

This substance belongs to the organic peroxide group and is chemically, disuccinyl peroxide.

Disuccinyl peroxide is a white, fluffy crystalline powder soluble in water 1-60, and when dissolved in water undergoes a change by hydrolysis succinic peracid and succinic acid being formed. The succinic peracid is an exceedingly powerful oxidizing and germicidal agent, almost as powerful as disuccinyl peroxide.

Disuccinyl peroxide, or more familiarly known as Alphozone, has many advantages peculiar to itself, and careful tests thoroughly demonstrated its germicidal power and non-toxic effects.

Alphozone was found to be equally as destructive to pathogenic micro-organisms as mercury bichloride, but, as it has no deleterious influence upon the tissues to which it is applied and is devoid of all toxic effects even in fairly large doses internally, the importance of the discovery of Alphozone cannot well be estimated.

OVARIAN CYSTS SITUATED ABOVE THE SUPERIOR PELVIC STRAIT, COMPLICATED BY PREGNANCY.

In the *September Surgery, Gynecology and Obstetrics*, there appears a paper on this subject by Dr. Charles L. Patton, of Springfield, Illinois. The paper is exhaustive and well worth a careful reading. The following conclusions at which he arrives:—

- (1) Ovarian cyst is not an infrequent complication of pregnancy.
- (2) Ovarian cyst is a dangerous complication of pregnancy. This danger varies with the kind of treatment instituted for its relief.
- (3) Removal of the cyst by laparotomy before labor yields the best results for mother and child.
- (4) The mortality in laparotomies, during pregnancy, for the removal of an ovarian cyst is not greater than in the non-pregnant patient.
- (5) There is no definite elective period in which laparotomy should be performed. The case should be operated on as soon as the diagnosis is made.
- (6) Dangerous complications are more frequent in ovarian cysts with pregnancy than in those where pregnancy is absent.
- (7) Ovarian cysts are, especially dangerous in the early puerperium.
- (8) Tapping an ovarian cyst gives only temporary relief, is not curative, and is a dangerous procedure. It should only be employed in those cases of enormous distension where operation is absolutely refused.
- (9) Induction to labor and craniotomy entail absolute death of the child, and are of great danger to mother.
- (10) If, for any reason, treatment by other means than laparotomy before labor becomes necessary, it should be followed by removal of the cyst as early in the puerperium as possible.